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Organizational Decline and Death: A Semiotic Analysis

University — Université

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Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée

PhD (Doctor of Philosophy)

Year this degree conferred — Année d'obtention de ce grade 1983	Name of Supervisor — Nom du directeur de thèse Dr. C.S. Bumbarger

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ORGANIZATIONAL DECLINE AND DEATH: A SEMIOTIC ANALYSIS

by

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A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF EDUCATIONAL ADMINISTRATION
EDMONTON, ALBERTA
FALL, 1983

THE UNIVERSITY OF ALBERTA

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Chester H Bumbarger

Supervisor

External Examiner

Date June 24 . . . 1983

DEDICATION

To Fran, Mentor and Friend

ABSTRACT

Much of previous research on organizational life cycles has focused on the birth, growth and maturation phases of the organization. Recognizing a vacuum in the research, this study was designed to extract from available literature the various dimensions and descriptors of the last two phases of the organizational life cycle: decline and death.

The research assumption was that there existed common elements in the literature describing decline and death. Through a systematic analysis of the selected material, a set of theoretical propositions delimiting organizational decline and death was abstracted. The larger task was to analyze this literature and organize it in a more rational, empirical fashion. The outcome intended was that through the propositional analysis the parameters would be established and the pivotal factors leading to an organization's demise could be identified.

The methodology selected for analyzing the propositions was Semiotic Analysis. This methodology, as described in the Ariole Manual (1974:72), was "a rational system of reducing large quantities of data without losing the essential meaning of individual items". The process consisted of semantic reduction, synonym substitution and logical deduction.

The conclusions took several forms. Initially, conclusions were developed from logical arguments for each set and subset of the abstracted propositions. In turn, each of these conclusions was placed in a matrix with all other conclusions. Applying logical deduction to these conclusions, a final all-inclusive statement (conclusions) was deduced.

For decline, the result was that "it is acts of management" that were significant in decline. These acts included the failure to recognize,

plan for and deal with decline. Additionally, "normal" responses can worsen the problem. This would imply that there are specific strategies for the manager.

Upon comparing the difference in the number of propositions on decline versus those on death, it was concluded that there was little material dealing with organizational death. However, the conclusions deduced from the propositions in that set indicate that the ultimate effect of continued decline is death. It (death) may have multitudinous causes but death occurs when the organization "ceases to exist as a unique entity".

The implications for research include the development of appropriate managerial responses for dealing with a broad spectrum of decline-induced problems. As practitioners and researchers continue to deal with and observe decline, more dimensions of the problem and further areas for study will likely emerge.

Organizational death must be studied in something more than the usual case-study form. Questions may arise as to the avoidance or delay of that death and the effect of artificial support systems on the dying organization.

From this study one concludes that there are no "quick fixes" for decline. The problems are difficult, serious and must be dealt with as such. Attention should be given to both the short and long-term effects of decline and to the development of appropriate managerial strategies. This is a problem that won't "blow over".

ACKNOWLEDGEMENTS

The writer wishes to thank Dr. Chester Bumbarger, advisor and dissertation supervisor, for his wise guidance and enduring patience throughout this project. The other members of the committee: Dr. Don Richards, Dr. Ken Ward and Dr. Ted Aoki, were all most helpful and generous with their time. Additionally, the willingness of Dr. Reno Bosetti, Deputy Minister-Alberta Education, to serve on the committee was greatly appreciated.

Dr. Mary Nixon, while not a member of the committee, was most helpful on many occasions. Her confidence in my abilities and support of my instructional efforts were an essential component of the external support so necessary for the successful completion of a doctorate.

Finally, I am indebted to Dr. Francis Thiemann. This dissertation developed from a shared interest in and pursuit of the well-constructed, logically-derived argument. His reading of the numerous drafts of this project and assistance in critiquing the logical analysis, although painful at times, were crucial to the completion of the study.

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Chapter I

DIMENSIONS OF THE PROBLEM

INTRODUCTION

Describing organizations as open systems, Katz and Kahn (1978:16) emphasized "the energic input and maintenance . . . output and necessary absorption by the environment". Miller (1978:595) defined an organization as "a goal-seeking system which has an interacting goal-seeking sub-system with different goals arranged in a hierarchy". The premise underlying these researchers' works was that organizations were dynamic, interactive entities. They simply did not suddenly appear and remain static, rather they constantly responded to new internal and environmental stimuli. Organizations were created and underwent a series of changes; development, maturation, old age and eventually they ceased to exist.

The research focus in organizational analysis has been on the birth, development and maturation as well as the changes that occur within and between these phases. Using a system of biological analogies known as life cycle, the emphasis has been not only on the first three phases but also on decline and death that completed the cycle. While acknowledging that growth, development and maturation occurred, researchers have been reluctant to address the latter phases. Garreau (1982:19) describing financial organizations, offered the following statement of the problem: "The finest minds have been telling us how to grow. No one seems to know what to do when you get grown".

Initially it was assumed by researchers that decline was the reverse of growth. Hannan and Freeman (1975:227) found that growth and decline elicited different effects on the organization's structural variables. Divorky (1981:87) succinctly described the problem "gearing down is not the reverse of gearing up". Pullias (1982), Ray (1981) and Tyler (1982) saw decline as a temporary phase, something endured for the short term. Better times would arrive.

All organizational systems described biologically must confront decline and death. Evidence of these two phases have regularly occurred in the form of: declining enrollments, shrinking revenue sources, building closings, corporate mergers and bankruptcies. After decades of unparalleled physical and economic growth, organizations have entered what Boulding (1975:8) has described as "a period of limits". Thus, the determination of the various dimensions of decline and death is significant to the study of organizational life cycles and was deemed the focus of this study.

PURPOSE OF THE STUDY

Studying decline and death as part of organizational life is not without precedent. Smith (1963) described a number of ailments common to American businesses causing serious survival problems for corporations. Argenti (1976) detailed the death throes and ultimate collapse of three multi-national companies. Responses to corporate decline were outlined by Hirschman (1970). These researchers' work, describing decline and death, were case-studies of the phenomena and their unique effects on private-sector organizations.

Public-sector literature focused on managing decline, often called "hard times". March (1974) outlined the characteristics of education's declining state and the appropriate strategies for dealing with the problem. Levine (1978, 1979), Whetten (1981) and other researchers offered suggestions for administering educational and governmental organizations in decline. Emphasis was on specific events, actions and reactions. No attempt was made to develop a composite description of decline and death.

It was in recognition of this vacuum that this study was designed to extract from the literature the various dimensions and descriptors of the last two phases of the organizational life cycle. As Levine (1978:320) noted "the characteristics of a declining organization are like the pieces of a subtle jig-saw puzzle whose parameters can only be guessed at and whose abstruseness deepens with each new attempt to fit its edges together".

Through a systematic analysis of the available literature, a set of theoretical propositions delimiting organizational decline and death was abstracted. The larger task was to analyze this literature and organize the data in a more rational, empirical fashion. The outcome intended was that through the propositional analysis the parameters would be established and the pivotal factors leading to an organization's demise would be identified.

SIGNIFICANCE OF THE STUDY

Looking at present and to future economic climates, both the public and private sectors must confront a broad spectrum of what Miller (1978) categorizes as matter-energy and information declines that affect all organizational processes. Assuming the inevitability of decline, the study's significance arose from the absence in the literature of a systematic investigation or definition of the decline and death phases. As an initial step in synthesizing available material into a coherent whole, this study undertook to address this research vacuum. The intent was to systematically integrate the various assertions and speculations as to the dimensions of the phenomena.

This systematic analysis should prove to be of value to both researcher and practitioner. As they study, anticipate and confront the onset of these particular phases, it is necessary that the former expands the research base and the latter develops effective management strategies to deal with decline and death.

ASSUMPTIONS

The study was based on three assumptions. The first was that the life-cycle analogy was an appropriate one for the study of organizational processes. Some questions as to the legitimacy of applying a biological analogy to an abstract concept have been raised. Miller (1978:1) defined organizations as "one of the components of conceptual living systems carrying out processes essential for life". Kimberly (1980:2) described them as "social inventions, owned, designed and managed by people . . . possessing most of the limitations and potential that people have. They are fluid and dynamic . . . they act and react". Thus, the life-cycle analogy was deemed appropriate for this research.

The second assumption was that Semiotic Analysis was the most appropriate research methodology for a data base of alpha-string (word) data. Because of the large quantity of ordinary language, this procedure with its emphasis on semantics, pragmatics and syntactics, provided a vehicle for analysis that systematically controlled the researcher's subjective judgement while allowing for replication by other researchers. Finally, it was assumed that the assertions and speculations abstracted from the literature were observed in the past and would be found in the future under the same conditions.

DELIMITATIONS

While an analysis of all life-cycle phases would have been of value, extensive work has already been done on the growth, development and maturation phases. This study focused only on decline and death. Additionally, although literature describing both public and private-sector organizations was analyzed, special focus was upon the implications for the public sector and more specifically for educational organizations.

Since this was a theoretical study, no detailed application to practice was undertaken. The researcher relied on the open systems literature to describe organizational functioning and actions.

LIMITATIONS

A complete identification and understanding of all aspects of organizational decline and death, although a desirable goal, was not claimed. This study entailed an exhaustive review of the available literature. Even so, the quantity of material in the general field precluded complete coverage. Thus, the determination of degree of adequate coverage, understanding and assimilation were constrained by the abilities of the researcher. This constituted a limitation on the study.

To determine completeness a decision rule for inclusion of material into the data collection was established. Pioneering work in life-cycle study was done by Penrose (1952) in her "Biological Analogies and Theory of the Firm" and Boulding (1962) in A Reconstruction of Economics. However, it is Smith's (1963) Corporations in Crisis that marks a watershed in the study of organizational decline and death. Therefore, the publication time frame for inclusion into the data collection was January 1, 1963 to September 1, 1982. Although this was arbitrary, these guidelines were, nonetheless, deemed essential.

Initially, there was the necessity to restrict the library search to the holdings at the University of Alberta. This was viewed more as an expression of time limitations than as a restraint upon coverage, as the holdings at the University of Alberta were extensive and served as an excellent source. However, the opportunity to examine the holdings at the University of Oregon and the University of Louisville which occurred during the course of the data collection proved invaluable. Additionally, data were gathered from the private holdings of several colleagues.

DEFINITIONS

Organizational Life Cycle

Kimberly (1980:7) defined this as "a biological metaphor used to describe the creation, development, expansion, stabilization, decline and disappearance of organizations". Adizes (1979:4) described the life cycle as "a series of passages: birth, growth, maturity, old age and death; in each passage a unique pattern of behavior emerges". In this study, life cycle was defined as an appropriate hypothetical or metaphorical framework comprising a series of phases: birth, development, maturity, decline and death; which describe organizational processes.

Decline

According to Whetten (1980:345), decline was defined as either cutbacks or stagnation. Cutbacks are "reductions in the size of the work force, budgets, profits or clients. Stagnation is a decrease in the rate of increase". Levine (1978:316) described decline as a "form of organizational change compounded by a scarcity of slack resources". Decline, for this study, was a life-cycle phase where there were indications of the existence of a no-growth or deteriorating condition affecting the organization.

Death

Although it is difficult to determine the exact time of biological death, according to Miller (1978:711) in organizational life it occurs when the organization ceases to exist as a result of loss of purpose, drastic reduction in manpower, merger, bankruptcy or when there is a loss of input, throughput or output capacity. Miles (1980:440) distinguishes three dimensions of organizational failure: "technical inability to achieve and maintain economic efficiency in required transactions; political inability to achieve and maintain legitimacy among strategic constituencies; and cultural inability to achieve and maintain ideological bases". For this study, the life-cycle phase in which the disappearance of the organization as an entity occurred was defined as its death.

RESEARCH STRATEGY

The research assumption was that there existed common elements in the literature describing decline and death. This literature, from a variety of disciplines, constituted the study's data base. From these common elements a set of theoretical propositions for organizational decline and death were developed. The propositions were then analyzed, related and a partial theory of decline and death developed.

The methodology used for analyzing the alpha-string data was Semiotic Analysis. This procedure served as the basic component of the Ariole Research Project at the University of Oregon. Semiotic Analysis as used in this study, was described in the Ariole Manual (1974:72) as "a rational system of reducing large quantities of data without losing the essential meaning of individual items". The complete research methodology is detailed in the Appendix. The strategy was to organize the data, generate theoretical propositions and develop a partial theory.

Chapter II

SEMIOTIC ANALYSIS - PART I

The Literature

INTRODUCTION

Traditionally, Chapter II of any major research report is the Review of the Literature. Once the decision to use Semiotic Analysis (SA), the methodology selected for this study, had been made an analysis of the literature became an essential component in the process. The literature became the research population. Therefore, in this chapter that literature will be reviewed in the form of a propositional inventory. This inventory of hypothetical statements (propositions) abstracted from the literature was a necessary step in the SA process.

SEMIOTIC ANALYSIS

The specific research procedure was developed by Thiemann (1968). It was later extended, revised and published in the Ariole Planning Manual (University of Oregon: 1974). Thiemann (1980:2) described Semiotic Analysis as "an analytic process which is more systematic than ordinary language and less formal than pure mathematics".

Semiotics is concerned with the relationships and changes among words and their meanings. Specifically, semiotics is "the theory of signs or a generic term which includes three distinct branches: pragmatics, syntactics and semantics" (Thiemann; 1980:1). Pragmatics is concerned with the relations between words (signs) or expressions and their users. Syntactics deals with the formal properties of signs and symbols (how words are put together). Finally, semantics pertains to the relationships between signs, their symbols and what they represent. Within semiotics is contained the theory of logical deduction. Therefore, Thiemann (1980:1) summarizes "Semiotic Analysis incorporates the concepts and methods of these disciplines in separating alpha (word) data into component or constituent elements".

Using SA one is attempting to determine the "basics" or "essences", in this case, of organizational decline and death. The task was to identify this meaning with something approaching mathematical precision. Some have classified SA as a form of Content Analysis. According to Thiemann (1980:8) "one of the major advantages of Semiotic Analysis over other methods of Content Analysis (see Holsti; 1969:195-221) is in establishing categories or sets and sub-sets inductively-a posteriori. Content Analysis tends to be a priori".

The evolutional phases that bring one to Semiotic Analysis begin with Aristotle (Thiemann; 1980:3). The Philosopher was concerned not only with the contents of statements but also with structure and the interrelatedness of language resulting from statements that could be proven valid or logical.

Interest in these Aristotelian concepts was sporadic until the mid-19th century. It was the work of George Boole in Mathematical Analysis of Logic (1847) and Laws of Thought (1854), that brought language analysis into the modern era (Thiemann; 1980:3). His work significantly modified alpha (word) data analysis.

Researchers in the 20th century continued in their efforts to bring to language the empiricism of mathematical logic. Zetterberg in his On Theory and Verification in Sociology (1954) was a pioneer in the attempt to develop verifiable propositions in the Social Sciences. Additionally, Merton (1967:68) in describing the development of "Middle-Range Theory" as "consisting of limited sets of assumptions from which specific hypotheses are logically derived and confirmed by empirical investigation" focused on the need for deduction and verification.

Thus, Semiotic Analysis was the latest in these evolutionary processes which attempt to bring the order of deductive reasoning and logical argument to language. Basically, the process, consisting of semantic reduction, synonym substitution and logical deduction, was concerned with reducing a large volume of alpha (word)--string data to synthesized units without losing the essential meaning of the individual components.

ORGANIZATIONAL LITERATURE

Overview

The literature describing organizational decline and death comes from a variety of disciplines. Although the propositional inventory served as the critical analysis of the data (literature), the following is offered as a brief overview of the material analyzed.

Much of the corporate literature described the decline condition as one which resulted from a series of failures both internal and external (environmental) to the organization. With respect to internal factors, in the private sector there existed quantitative indicators of the state of the organization. Analysis of profit-loss statements, production data or performance goals and achievements offered a fairly accurate indication of organizational well-being. These quantitative measures enabled the organization to locate deficiencies in the system. Growth or decline judgements could be made on the basis of these indicators leading to the possibility of corrective action.

Organizational death in the private sector was usually dealt with in case-study form. The literature reported the processes, causes and problems of corporate mergers, bankruptcies and closures. Through the study of this data some general conclusions on organizational death were possible.

Public-sector organizations did not have access to quantitative indicators of vitality comparable to those in the private sector. The problem of decline was perceived to be one caused by environmental factors over which the organization had little or no control. Declining enrolments and decreased funding sources, two often-cited problems were environmental in origin.

The difficulties created by these environmental factors did, nonetheless, cause internal problems for public-sector organizations. The common response appeared to be one of "riding out" or ignoring the problem. Throughout most of the literature there was the prevailing assumption that the problem was short-term and easily corrected by the infusion of more money. Needless to say, there was little discussion of organizational death, just survival until a change in funding could occur. A philosophy of growth seemed to prevail even in the literature describing those public-sector organizations with serious resource and population deficiencies.

The difference between the literature on decline and death in the private sector as compared to the public sector was delineated by Whetten (1980:371). He stated "In the private sector organizational death is viewed as suicide, in the public sector it is treated as homocide". This difference in perception prevailed throughout the literature.

Propositional Inventory

A set of propositions was abstracted from the available literature. The complete description of this abstraction process is contained in Chapter III of this study. A brief coverage of this process is provided here. The propositions were written in the hypothetical, "If, then" standard form. The antecedent (p) was connected to the consequence (q) to indicate decisional, definitional or logical relationships. No causal relationships were found. Use of the lower case (p, q, r, s . . .) were symbolic representations of all propositions. Upper case (A, B, C, D . . .) symbolized particular propositions. A brief explanation of hypothetical statements, taken from the Ariole Manual (1974), is included in the Appendix. To expedite the reporting process only the consequence (q) of each proposition was included since the antecedent (p) remained constant.

Two sets of propositions, one dealing with decline and the other with death, were listed. For propositions describing decline the antecedent (A) was "If there is decline in the organization, then . . .". The antecedent (B) for the propositions dealing with death was "If an organization is dead, then . . .". In the inventory the propositions were numbered and grouped under reference source. Those sources were arranged alphabetically and numbered. The inventory resulting from the literature analysis follows.

PROPOSITIONAL INVENTORY

1. Abramowitz

If there is decline in the organization, then:

1. An automatic reduction in educational costs will not result.
2. Remaining clientele are increasingly educationally disadvantaged.
3. There are fewer students.
4. The margin of error for mistakes decreases.
5. Management practices must improve.
6. Its occurrence may catch many off guard.
7. Urban school systems may lose clientele.
8. Growth and decline may occur simultaneously.

2. Adizes

If there is decline in the organization, then:

1. The results orientation is affected.
2. The results orientation declines.
3. Organizational climate changes very subtly.
4. Facilitation at these stages requires an independent, trusted, external agent for change on a long-term basis.
5. Budgets for change and adaptation decrease.
6. An external change agent is necessary to facilitate organizational development.
7. Form is more important than function.
8. The administrative role dominates.
9. The manager's behavior accelerates organizational decline.
10. A new and destructive phenomenon emerges-managerial paranoia.
11. The manager's performance declines, further increasing paranoia.
12. People get hired because of how well they get along.
13. The better people (employees, managers) are feared.
14. The better people leave.
15. The fight for personal survival begins.
16. The consultant turns out to be an insultant.
17. Attempts to create are perceived as threats.
18. There is no real eagerness to challenge each other.
19. There is the need to facilitate divergent thinking.
20. New ideas are received without criticism.
21. New ideas are received without enthusiastic acceptance.

22. There is very little risk-taking.
23. A period of inward retrenchment begins.
24. The climate becomes more formal.
25. There is no real eagerness to challenge the market.
26. Someone must take the blame.
27. The facilitator has to build aspirations by increasing the perceived disparity between desired and expected outcomes (that is to stimulate overt dissatisfaction).
28. The manager's creative abilities are directed toward personal survival by eliminating and discrediting each other.
29. There is a loss of the sense of urgency.
30. New ideas are received without excitement.
31. There is inertia.
32. There are different role combinations that produce different organizational behavior.
33. There is a decline in the entrepreneurial role.
34. A reduction in aspirations can be sensed.
35. There is a reduction in the eagerness to excel.
36. It is a life-cycle passage.

3. Argenti

If there is a decline in the organization, then:

1. There are non-financial symptoms.
2. One non-financial symptom is a decrease in quality or service.
3. One of the structural defects is accounting information.
4. One of the non-financial symptoms is the demeanor of top management.
5. One of the non-financial symptoms is low morale.
6. One of the structural defects is managerial.
7. One of the structural defects is the failure to respond to change.

4. Atherton

If there is decline in the organization, then:

1. There must be a concern with adjustment to lower levels of resource allocation.

5. Bakalis (1)

If there is decline in the organization, then:

1. The overall message is often confusing.
2. There is an end to the age of abundance.

3. School boards must seek more state financing.
4. There may be an excess of education in relation to the absorptive capacity of the market.
5. There is a decline in economic abundance causing the commitment to schooling to decrease.
6. There are increased *demands for accountability*.
7. Handicaps often hinder the organization from successfully adjusting to decline.
8. It has great significance for teachers.
9. Teachers' unions are headed for more difficult times.
10. Teachers' unions must address some crucial question.
11. Teachers may have to address the issue of supply and demand.
12. School boards must make decisions as to what must go and what must stay.
13. School boards must understand why decisions must be made.
14. School boards must know what the implications of their actions are for the community.
15. Parents are the greatest challenge for administrators.
16. Parents will face confusion and conflict in their attitudes toward schools.
17. The students' voice will become less effective.
18. The impact on administrators is frighteningly immediate.
19. Administrators must educate the public as to the meaning of educational decline.
20. Administrators must educate the public as to the options presented in an era of educational decline.
21. A common handicap is the declining ability of management.
22. The most pressing demand administrators will have is to respond to the management of decline.
23. Many superintendents actually denied decline was happening.
24. Many superintendents in districts were unaware of this trend.
25. The signals are not always clear to educational policy makers.
26. Long job tenure produces cynicism (doubt) as to whether the entire effort was worthwhile.
27. Job anxiety increases the conservatism of an already conservative group.
28. It is a time of high anxiety.
29. The availability of younger and well-qualified administrators increases the level of job anxiety of older administrators.
30. There are larger numbers of younger and well-qualified administrators.
31. Managers are older.
32. Job mobility is reduced.
33. Employees tend to remain in their jobs for longer periods of time.
34. A common handicap is the rising age of the labor force.
35. There is decreased risk-taking.
36. The prospect for education in this era may not be so foreboding.
37. There is a search for scapegoats.
38. The initial impact will be on people and organizations that constitute the complex web of American education.
39. The impact on people will be as varied as the numerous groups who have some stake in the American educational process.
40. A long job tenure produces lower morale.
41. There is a widespread sense that things are out-of-control.

42. The immediate organizational response is likely to be the continued movement toward various forms of bureaucracic centralization.
43. For American schools there are numerous dimensions.

6. Bakalis (2)

If there is decline in the organization, then:

1. There may begin an era of limits.
2. The adjustments in this era of limits will be painful.
3. The country will find itself in a permanent state of siege.
4. There are numerous and complex educational policy questions.
5. The response is often a defensive one.
6. There needs to be a renewed emphasis on planning and coordination.
7. There are demands for increased accountability in the public sector.
8. There may be increased fragmentation in the educational community.
9. We may be forced to re-evaluate the very core of our educational system.

7. Behn

If there is decline in the organization, then:

1. The support of extra-governmental groups may be sought to assist survival.
2. The organization will seek legislative support to insure survival.
3. There is a fight to survive.
4. The organization must emphasize adaptation as a means of survival.
5. Public support will be sought to insure survival.
6. There may be executive compromise to save the institution.
7. The prestige of superiors and others will be sought to insure survival.

8. Bell

If there is decline in the organization, then:

1. There is a change in the character of the social structure.

9. Biller

If the organization is dead, then:

1. The difficulties of termination may be generated by the strategies of initiation.
2. Termination refers to the circumstances when an organization did once exist in a tangibly-bounded sense and does so no longer.
3. There is spatial termination.
4. It is temporal.
5. It is not whether the organization should cease but rather where, when and under what circumstances.

10. Blumberg

If there is decline in the organization, then:

1. There are objective signs.
2. It may be as a result of government intervention or manipulation of the economy.
3. It may follow a period of rapid social growth.
4. It may come quickly after a period in which there was no perceptible change.
5. There is a falling rate of productivity.
6. There may be a decrease in productivity gains.
7. It may come because of a falling rate of productivity.
8. It may come because of a decline in productivity growth.
9. There is a loss in the lead for technological innovation.
10. It may result from a dissipation of scientific and technological superiority.
11. It may be traceable to a growing technological obsolescence.
12. There is a subjective loss of confidence and failure of nerve at high levels (managerial).
13. It is largely traceable to complacency arising from the organization's long-term oligopolistic position.
14. It may result because the organization is pressed hard by foreign competiton.
15. A contribution to economic decline is the colossal inefficiency of the defense industry.
16. It may come because the organization is aging.
17. It may result because an industry is aging.

11. Bogue

If there is decline in the organization, then:

1. The issue must become visible in the organization.
2. A reconsideration of the whole enterprise may be forced.
3. There is wavering morale.

12. Boulding

If there is decline in the organization, then:

1. Education is likely to be the first major segment of the economy to suffer decline.
2. In a school district there may be an opportunity for improving the quality of education.
3. A handicap is the decreasing ability of management.
4. Its management is a problem of administration.
5. A handicap is the rising age of the labor force.

13. Carrol and Tosi

If there is decline in the organization, then:

1. The organization may have a volatile environment.

14. Cooke

If there is decline in the organization, then:

1. A first sign is the unexpected decrease in teacher-student ratios in an increasing number of classes.

15. Crespo and Hache

If there is decline in the organization, then:

1. It may begin before the organization achieves a stable operating level.
2. The effective short-term strategies may jeopardize the quality of services in the longer run.

16. Divorky

If there is decline in the organization, then:

1. It is much more difficult to handle than expansion.
2. It is simply the most tangible sign of a new era in American schools.

3. There is no all-purpose handbook for handling decline.
4. The "shrinking" of a school district (organization) is an initially expensive process.
5. The "shrinking" of a school district (organization) is a difficult process.
6. The gurus say it takes about ten years to realize any substantial savings.
7. There is increased stagnation.
8. There is a lowering of the expectation of the public.
9. It is accompanied by a loss in public confidence.
10. Administrator motivation decreases.
11. There are long-range effects on the composition of the remaining teacher corps.
12. Administrators have less chance for promotion.
13. There may be significant effects on the morale of remaining teachers.
14. Administrator enthusiasm abates.
15. It is difficult to anticipate the effect of decline.

17. Drucker

If there is decline in the organization, then:

1. It may result from organizational inertia which always pushes for continuing what was already being done.
2. Organizational members become increasingly disenchanted.

18. Duke and Meckel

If there is decline in the organization, then:

1. Lost revenue fuels the downward spiral.
2. Increased absenteeism results in lost revenues.
3. These factors cause a drop in the quality of instruction.
4. The educational services for students tend to be of lower quality.
5. There is a reduction in extra-curricular activities.
6. There may be an increase in student problems.
7. There are fewer educational services for students.
8. There is increased student absenteeism.
9. There is a waste of human resources.
10. Teachers' energies are largely devoted to keeping classes under control.
11. School personnel become exhausted.
12. School personnel become disillusioned.

If an organization is dead, then:

13. It may occur because of starvation of resources.
14. There is a diminution of resources.

19. Fink, Beak and Taddeo

If there is decline in the organization, then:

1. It is most often precipitated by an identifiable event either internal or external to the organization.
2. A cause is confrontation with the failure to achieve important objectives.
3. A cause is the loss of major financial support to the organization.
4. A cause is the discovery of major inadequacies in the system.
5. It occurs when the organization's repertoire of coping responses is not adequate to bring about the resolution of a problem which poses a threat to the organization.

20. Freeman and Hannan

If there is decline in the organization, then:

1. It is the opposite of growth.
2. There is a loss of economies of scale.
3. The loss in direct component is not matched by the loss in supportive component.
4. The given increment in decline in enrollment will produce a smaller decline in the supportive component than the same increment of growth in enrollment.

21. Glassberg

If there is decline in the organization, then:

1. A substantial number of private organizations go through forms of reorganization every year.
2. Organizations are faced with the need for economizing so they shift to market alternatives.
3. One may observe a tendency in public organizations to be more responsive to private-sector models in times of fiscal stringency than they were in times of relative abundance.
4. It poses a distinctive leadership problem.
5. There may be incremental or quantum cuts in funding.
6. The likelihood of innovation is reduced.

22. Goldbold

If there is decline in the organization, then:

1. The firm may rely too heavily on one customer.
2. The cause may be too many, fixed, expensive costs.
3. Management may not be getting timely information.
4. It may come as the result of fraud.
5. It may come because the company has no idea of real market costs.
6. Board members may have been chosen for convenience.
7. It may come as the result of an inadequate reporting system.
8. It may come because the company has no strategy for adapting to changing conditions.
9. It may come as the result of too much nepotism in tough times.

23. Hall

If there is decline in the organization, then:

1. There is a period of stagnation (no growth).
2. During the phase there may be a period of forced growth.
3. The decline in profit-margin may be delayed for three years.
4. It is preceded by a period of leveling-off.
5. Intuitive solutions to the problems of complex systems will be wrong most of the time.
6. Any illness (deficiency) may strike the death blow.
7. The firm is vulnerable to business cycles (environmental changes).
8. The source of instability lies within the structure of the system in the form of a positive feed-back loop.

24. Hayes and Abernathy

If there is decline in the organization, then:

1. There is decline in the health of the organization.
2. There is a decline in the rate of productivity growth.
3. There is no provision for making risky, long-term investments.
4. There is growing unease about the organization's economic well-being.
5. Managers have been more concerned with short-term cost reduction rather than long-term technological competitiveness.
6. There is a failure of managerial leadership.
7. There is no allowance for entrepreneurial imagination.
8. There is a decline in the confidence of the organization.
9. There is a loss of confidence in the future.
10. There is a marked deterioration in competitive vigor.

25. Hechinger

If there is decline in the organization, then:

1. Its impact transcends physical, financial, bricks and mortar.
2. It is the end of growth.
3. There is a search for solutions.
4. It will necessitate eliminating redundant or inferior programs or departments.
5. There may be simmering hostility between private-sector and public-sector organizations for resources.
6. Decisions affecting the organization are often made based on inadequate information.
7. Education finds itself confronted with change.
8. Public support for education severely declines.
9. The most visible manifestation is in the schoolhouse (physical plant).
10. Perhaps the potential of universal public school has been oversold.
11. Perhaps schools have failed to live up to their part of the bargain.
12. Decisions are made by inadequately prepared managers or leaders based on political balancing (expediency) rather than synthesized knowledge.
13. An increasingly smaller number of conscientious persons carry an ever greater burden trying to keep the enterprise functioning.
14. For every innovation some existing activity must be cut.
15. There is little support for trying new approaches to correct past failures.
16. The prevailing mood is one of conservatism.
17. There is a search for scapegoats.
18. It is in productivity, innovation and initiative.
19. Confidence in school wanes.
20. The incentive to do good work diminishes.
21. The prevailing mood is one of self-doubt.
22. Many expectations are shattered.
23. There may be new opportunities for academic leadership.
24. Every failure becomes traumatic.

26. Hedberg, Nystrom and Starbuck

If there is decline in the organization, then:

1. Only superficial attempts are made to understand root causes rather than actions aimed at removing symptoms.
2. Excessive contentment may incubate the crisis.
3. When reality begins to intrude the organization misapprehends its difficulties and responds in ways that amplify this crisis.
4. Short-term improvements are sought at the expense of long-run progress.
5. Imbalances exist that may be fatal.
6. Shortages of liquid funds may force more stringent economies.
7. Investments are postponed.
8. Maintenance is deferred.
9. Actions are taken to improve accounting statements.

10. It is temporary in that the environment is only temporarily deviating.
11. Insufficient affluence is the most frightening signal emitted by error-monitoring processes.
12. The organization's environment has evolved into a stagnating backwater.
13. The organization gradually slides out of touch with what is happening both within itself and its environment.
14. It is caused by ordinary technological and sociological evolution which the organization meets ineptly.
15. It may result because of a sudden change in the organization.
16. The assumption is that the organization can survive decline and change.
17. The organization's survival depends on making drastic changes.
18. Decision-making is centralized.
19. Superfluous goals are excised.
20. There is a collapse of faith which brings the potential benefit of opening the way for new viewpoints.
21. The organization lacks the processes for resolving conflicts.
22. Friendly camaraderie vanishes.
23. The spirit of jauntily facing a challenge together fades.
24. Dissension develops.
25. Controls are added to compensate for dissension.
26. Some people or units are made scapegoats.
27. There is a desire for certainty.
28. A strong task-orientation is demanded.
29. There is a loss of contentment in the organization.
30. There is decelerator action.

If the organization is dead, then:

31. Followers abandon their leaders especially those associated with groups or strategies.
32. Doubts multiply concerning the organization's appropriate domain.
33. Unlearning mounts.
34. Imbalances existed which proved fatal.

27. Henchey

If there is decline in the organization, then:

1. It is often preceded by a period of unrestrained growth.
2. In educational priorities the more urgent and politically powerful claims are made for other social needs (competition for scarce resources).
3. The external pressures have greater impact on the organization than the internal competition for public resources.
4. It will be in the quality of public (K-12) instruction.
5. The external pressures may have greater impact on the organization than the internal climate of turbulence and uncertainty.
6. The pressures may be internal.

7. The criticism of schools may be a symptom of a wider malaise that people have been unable to comprehend or master.
8. It will be in the importance of public elementary and secondary education.
9. It will come because of pressures on education.
10. Managers may preside over breakdown.
11. Teachers and administrators may become translators of government regulations.

28. Hilton

If there is decline in the organization, then:

1. There may be over-production of the organization's product.
2. There may be a string of costly failures linked with an assortment of innovative products.

29. Hirschman

If there is decline in the organization, then:

1. It arouses exit.
2. It arouses voice (criticism).
3. It arouses loyalty.

30. Levine (1)

If there is decline in the organization, then:

1. Problem depletion is largely a product of forces beyond control of the organization.
2. We must overcome a tendency to regard decline in public organizations as anomalous.
3. Internal atrophy and declining performance can lead to resource cutback.
4. To disaggregate and cutback on one element of the organizational arrangement may jeopardize the functioning and equilibrium of the entire organization.
5. It is a symptom of resource scarcity at a societal level.
6. Political vulnerability is an internal property indicating a high level of fragility and precariousness which limits its capacity to resist budget decrements.
7. Inflation erodes "steady states" so that staying even actually requires extracting more resources from the organization's environment.

8. The feature of all declining organizations is the diminution of the cushion of spare resources necessary for coping with uncertainty, risking innovation and rewarding loyalty and cooperation.
9. It may be by plan.
10. Environmental entropy has a political dimension.
11. Environmental entropy occurs when the capacity of the environment to support the public organization at prevailing levels of activity erodes.
12. Problem depletion is largely a product of forces beyond the control of the organization.
13. It is a form of organizational change.
14. It is a problem for managers who must maintain organizational capacity by devising new managerial arrangements within prevailing structures that were designed under assumptions of growth.
15. Organizational atrophy is a common phenomenon because of the organization's (public-sector) failure to signal a malfunction or pinpoint responsibility.
16. The organization faces the decision-task of making decisions as to how and where cuts occur.
17. The organization faces the decision-task of deciding which is the most appropriate tactic.
18. It is a contingency for employees and clients.
19. It forces members to set the logic for rational structure on end and upside down.
20. Our enthusiasm for growth is so great that decline is viewed as a temporary slowdown.
21. It may be by erosion.
22. The organization's age may be the most accurate predictor of bureaucratic vulnerability.

31. Levine (2)

If there is decline in the organization, then:

1. The process for building and maintaining support for administrative systems are complicated.
2. It is an era dominated by resource scarcity.
3. It is difficult to find funds to invest in productivity improvements.
4. Maintaining and using the analytic capacity becomes impossible.
5. There is a loss of credibility within the organization.
6. Public expectations and support are affected.
7. Many managers believe it is only temporary.
8. It is difficult to attract people to the organization.
9. The capacity to hire replacements becomes crippled.
10. The demand is for new solutions on how to manage the problems in the public sector.
11. The prospects for innovation by consensus decreases.
12. It is easier to make the necessary adjustments in a poorly managed organization than in a well-managed one.

13. There are consensus problems in the organization.
14. The probability of rancorous conflict will increase.

32. Landro

If there is decline in the organization, then:

1. There is decline in interorganizational competition.

33. Lilley

If there is decline in the organization, then:

1. It may be hastened by government interference.
2. It may be hastened by the failure of the government to infuse money.
3. A reprieve is strictly temporarly.
4. There may be a belief that the firm can be nursed back to health.
5. It may come because the advice of old managers is ignored.
6. It may come because of efforts to streamline the organization.

34. Lippitt and Lippitt

If there is decline in the organization, then:

1. There is a decrease in available resources.
2. There is "downgrading" in addition to "downsizing".
3. The organization is diminished in quality.
4. The organization is diminished in effectiveness.
5. There is diminishing opportunity for network connection.
6. There is a decrease in the motivation for best performance.
7. There is decrease in the status or power to influence.

35. March

If there is decline in the organization, then:

1. It is the third stage of the history of a social institution, the period of neglect.
2. It is preceded by a period of conflict.
3. It is preceded by a period of dynamic growth.

4. One of the characteristics is that there is a decrease in resources not necessarily in absolute terms but relative to the demand for them within the institution.
5. One of the characteristics is the eliminating of resource buffers between contending groups in the organization.
6. One of its characteristics is an oversupply of qualified professionals with few chances for advancement.
7. One of its characteristics is that leadership tends to age.
8. One of its characteristics is the loss of joy among organizational members.

36. McTighe

If there is decline in the organization, then:

1. It marks the beginning of a "period of limits".

37. Melman

If there is decline in the organization, then:

1. There is a feeling of powerlessness.
2. There is a feeling of hopelessness.

38. Miller

If there is decline in the organization, then:

1. The diagnosis of pathology (disease) is difficult because there are neither generally accepted indicators of organizational health and disease nor established ranges of stability for organizational variables.
2. The generally accepted signs of pathology differ from one type of organization to another.
3. A symptom of pathology may be a failure to perform as well as the organization's competitor.
4. In a non-profit organization the evidence is less immediately apparent.
5. In a profit-making organization a symptom of pathology may be if profits decrease.
6. Information that a stress is imminent constitutes a threat to the system.
7. Stress occurs when the variables are forced beyond their range of stability.
8. The greatest variety of forms of organizational pathology concern internal-information processing.

9. In a single system it is usually possible to discover disturbances in internal "steady states" which have been responsible for the outcomes.
10. Acts of the decider in failing to forsee the crisis (internal or external) or to prepare adequate adjustments are ultimately responsible for the pathology.
11. It may come because of the failure to obtain inputs of sufficient new members to take the place of those lost through normal processes of attrition.
12. Violent inputs of matter and energy into the organization can produce pathology.
13. It may come because the organization can be overwhelmed by excess quantities of matter-energy.
14. It may come as the result of inputs from employees who do not function in the sub-system processes or disrupt them frequently.
15. It may occur because of lack of information inputs.
16. It may occur because of excesses of information inputs (overload).
17. It may occur because of defects in the organization's charter (maladaptive genetic information).
18. It mayoccur because of abnormalities in internal matter-energy processes.
19. It may occur because of failures or inadequacies in internal information flows.
20. It may occur because of failures or inadequacies on the part of the decider.
21. It may result from blockages or distortions in information flows and inadequate two-way feedback.

If the organization is dead, then:

22. It may occur because there is a loss of all human components of the organization at one time.
23. It may not always be a clear-cut event like the death of an organism.
24. It occurs when the purpose for which the organization was founded is accomplished or abandoned.
25. It occurs because membership falls below a critical number.
26. It may occur because of merger where unique organizational identity is lost.

39. Pullias

If there is decline in the organization, then:

1. There is a crisis in the organization.
2. There is general confusion in basic philosophy and belief.
3. It precedes a period of deep transition where people search for other beliefs to replace the old.
4. There is a reduction in morale among key members.
5. There is confusion of purpose among educators.

6. There is a loss of vision and purpose.

40. Ray

If there is decline in the organization, then:

1. Expectations must be adjusted to new realities.
2. There is undermining of the "steady state".
3. Tenure will retain old employees in positions.

41. Smith

If there is decline in the organization, then:

1. It does not arise from a single cause.
2. It is not sudden but is a long time in the making.
3. There is an inability to change to solve the problem.
4. The central cause may be the "Top Man".
5. The cause may be the preservation of an anachronistic policy rather than an out-moded philosophy of management.

42. Solomon

If there is decline in the organization, then:

1. There was an adverse affect on quality of classroom instruction overall.
2. There may not be a reduction in teaching load.
3. Programs may be affected (reduced).
4. There is an intense competition for remaining resources.
5. Program quality is reduced.
6. The community must be mobilized to support changes.
7. The district must maintain positive public relations.
8. Layoffs may affect student achievement.
9. The cause reflects a lack of interest in certain subjects among students.
10. Students must restrict their programs to meet basic requirements.
11. The cost of delivering educational services does not diminish in direct proportion to the loss of students.
12. Program co-ordinators may be terminated, program suffers slow death by neglect.
13. There may be a facilities utilization problem.
14. There is a host of managerial problems.
15. Administrative costs tend to be fixed or increase.

16. There is greater staff anxiety over job security.
17. Negative, counter-productive personnel attitudes are intensified.
18. There are pervasive and difficult to resolve personnel problems.
19. Younger, better teachers may get "bumped".
20. The most serious management problem is the laying off of personnel.
21. Professional mobility at district-level is constrained.
22. There may be a hiring freeze.
23. There can arise a concern for a "safety net" for those released.
24. Employees adopt new strategies that create new problems.
25. Teachers and administrators usually take on extra work without extra pay.
26. There can also arise conflicting loyalties among teachers.
27. Confusion occurs and rumors run rampant.
28. Staff morale is lowered.
29. There occurs a demographic change.

43. Starbuck and Hedberg

If there is decline in the organization, then:

1. The organization may have inadvertently chosen this option.
2. The organization inflicts decline on itself.
3. The preceding success may have incubated the potential failure by increasing the organization's dependence on programs.
4. It may be incubated in the organization's success.
5. The organization cannot "bootstrap" its way out.
6. There is a stagnating environment that is pathological.
7. Environmental benevolence vanishes.
8. It may result from extreme managerial defects.
9. Top managers often deny its existence.
10. The organization gathers behavioral inertia.
11. The organization has gradually lost touch with its present reality.

44. Starbuck, Greve and Hedberg

If there is decline in the organization, then:

1. There is erosion of the organization.
2. The organization does not have qualitatively unusual characteristics.
3. It may originate from defects within the organizations themselves.
4. It becomes more dangerous because normal responses make them worse.
5. The impediments to learning usually grow very strong in organizations.

6. A company that places great emphasis on accounting reports may have difficulty coping with the crisis.
7. Risks are amplified by faulty perceptions of environmental events.
8. It becomes an environmental reality when organizations choose their immediate environments.
9. It may originate as threatening events in the organization's environment.
10. There is disintegration of feed-back.
11. The organization is not fundamentally abnormal.
12. Once some organizations start disintegrating they never pull themselves together again.
13. There may be choices involving risks.
14. The processes which produced the crisis are substantially identical with the processes that produced success.
15. It may occur and worsen because the organization underestimated the needs for action.
16. Top managers are often in a state of paralysis.
17. Its existence may be denied by managers.
18. The organization gathers behavioral inertia.

45. Thomas

If there is decline in the organization, then:

1. The organization is not "struck down" (felled from outside), it falls apart.

46. Thurow

If there is decline in the organization, then:

1. Intellectual rigor is replaced with intellectual, sociological and administrative rigor-mortis.
2. There are fewer job opportunities.
3. There is little influx of new talent.
4. It is because of demography.

If the organization is dead, then:

5. Death was preceded by decline.

46. Tichy

If there is decline in the organization, then:

1. Causing a peak in political uncertainty, it is defined as the degree of stability and predictability of the bargaining and exchange relations among interest groups in relation to the allocation of resources.
2. In the technical design, it is defined as the difference between information required to complete a task and information actually processed.
3. It occurs after a peak in the technical cycle and may begin as a result of the environment becoming less munificent (resource limitations placed on the organization).
4. It occurs after a peak in the technical cycle and may begin as the result of organizational and managerial adjustments which entailed the development of greater information processing capacity.
5. It is not based on maturational processes but on the dynamics of social systems surviving and making adjustments over time.
6. High uncertainty will cause the political cycle to peak.
7. The political uncertainty relates to uncertainty over who has the power to allocate resources (rewards) and to decide the goals of the organization.
8. Causing a peak in the cultural cycle, it is defined as shifts in cultural values in the environment or when new people enter the organization.
9. There may be cultural uncertainty related to differences among organizational members with regard to their values and ideology.

If the organization is dead, then:

10. It may have occurred when all three cycles peaked simultaneously.

48. Toynbee

If there is decline in the organization, then:

1. It was preceded by a period of constant growth.
2. The organization faces a future of increasingly severe austerity.
3. There will be diminished resources causing increased conflicts.
4. The society may be ascending spiritually.

49. Tyack

If there is decline in the organization, then:

1. There is an attitude that sees the choice of education as simply a consumer good.
2. Retrenchment may exacerbate factional conflicts.
3. There is a lack of concern about the consensual basis of the common school.
4. There is apathy toward public education.
5. Loyalty declines.

50. Tyack and Hansot

If there is decline in the organization, then:

1. Constriction has set in.
2. The media focuses on educational pathologies.
3. The incoherence may be produced by easy money.
4. The incoherence may be produced by rapid growth.
5. Retrenchment could set in motion the haphazard process of incrementalism.
6. The vital role of the common school as a common good has atrophied.
7. The old unifying philosophy of education is in disarray.
8. To deal with it one must decide what is essential.
9. Hyperpluralism seems to be the order of the day.
10. There is fragmentation and discord in governance.
11. There is a loss of coherence.
12. Factionalism and bitter competition for resources among organizational groups may arise.
13. The organization becomes litigious.
14. There is discord within the educational profession itself.
15. Possessive individualism seems to be the order of the day.
16. The collective sense of responsibility is threatened.
17. The loyalty to the common goal of public school erodes.
18. Some units in the organization succeed.

51. Whetten (1)

If there is decline in the organization, then:

1. There is a loss of legitimacy due to problem depletion.
2. It is used to describe the general climate or orientation of an organization.
3. It is seen as stagnation (decrease in the rate of increase).
4. As stagnation, it occurs in periods of abundance.
5. As cutbacks, it occurs during times of scarcity.
6. Its source is the improper response to crisis.
7. It is cutbacks in profits.
8. It is cutbacks in the size of budgets.
9. There is a cutback in the number of clients.
10. It is cutbacks in the size of the workforce.
11. The problem is often one of response rather than recognition.
12. If environmental entropy is the source, it is the reduced capacity of the environment to support the organization.
13. If organizational atrophy is the source, the organization is unresponsive to environmental change.
14. In the public sector, it is environmental rather than within the organization.
15. There is an effect on the manner in which business is conducted.

16. There is a loss of legitimacy due to problem depletion.
17. There is vulnerability based on political-public support or lack of it.
18. There is a loss of legitimacy caused by the failure to cultivate political acceptance.
19. The organization's presence in a stagnating environment says more about the organization's management than about the capacity or potential of the organization.
20. In the private sector, declining profits are regarded as evidence of stagnating management rather than environmental scarcity.
21. There are effects on career patterns.
22. It penalizes those who can least afford it.
23. It stymies organizational innovation.
24. There is increasing interpersonal conflict.
25. There is increased stress on individuals.
26. It affects the state of mind of staff and management.
27. There is vulnerability based on newness (older organizations are less vulnerable).
28. The organization may have difficulty surviving because of inexperience.

If the organization is dead, then:

29. Death is the ultimate effect of decline.
30. In the public sector it is treated as homicide.
31. In the private sector it is treated as suicide.

52. Whetten (2)

If there is decline in the organization, then:

1. In an educational organization the response is often conservative.
2. The focus is on combating stress symptoms rather than on solving the underlying stress-creating problems.
3. The organization may have had a history of spectacular growth.
4. Innovation is at the heart of adaptive responses.
5. Innovative responses must be formulated.
6. The most innovative members leave the organization first.
7. The organization may be innovation-resistant.
8. The problem-solving process is distorted.
9. It leads to the espousal of traditional values.
10. There is ambiguity and contradiction.

This concludes the propositional inventory as abstracted from the available literature. In the next chapter, this inventory will serve as the basis for the subsumption process in the Semiotic Analysis.

Chapter III

SEMIOTIC ANALYSIS - PART II

The Process

INTRODUCTION

The methodology for this study of organizational decline and death was Semiotic Analysis (SA). This research approach emphasized the semantics, syntactics and pragmatics of alpha-string data abstracted from the literature selected for study. The entire eleven-step procedure, as detailed in the Ariole Manual (1974), is included in the Appendix. The following is an outline of the essential components of Semiotic Analysis:

Step 1 List the propositions abstracted from the literature.

Step 2 Create from these propositions a word-frequency dictionary.

Step 3 Isolate the propositions containing the key words and determine how many propositions can be subsumed.

Step 4 Write subsuming statement(s).

Step 5 Replace the subsumed statements in the data collection with the subsuming statement.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Step 10 Create a valid argument which uses or implies all the relationships noted in the matrix.

Step 11 Finally, construct a matrix of conclusions from which additional conclusions can be drawn.

The data reduction process produces a few conclusions that can represent a large number of statements. The goal is the identification and isolation of essential ideas.

ABSTRACTION OF HYPOTHETICAL PROPOSITIONS

The data base for the study was the selected literature describing organizational decline and death. Five-hundred-thirty-nine (539) propositions were abstracted from fifty-two (52) sources. The literature was selected on the basis of a traditional library search of books and periodicals, extensive cross-referencing and bibliographic citations. References to decline and death were isolated. Although only fifty-two (52) sources were ultimately used for abstraction, many more were reviewed and judged non-applicable for this study.

The intent in each abstraction was to identify the essential elements which directly related to, defined or described any aspect of organizational decline and death. In this process every reference to decline or death was abstracted even though a similar statement may have already been abstracted from another source. These statements were placed in the hypothetical, "if, then" form. The antecedent (if) for the propositions describing decline was "If there is decline in the organization, then . . .". For propositions on organizational death, the antecedent was "If the organization is dead, then . . .". The antecedents were held constant throughout the study while the consequences (then) were allowed to vary.

Using this method, the propositional inventory of consequences was developed. The statements were arranged alphabetically and numbered. This categorization system was later used for identifying the propositions in the subsumption process.

To assure thorough and reliable coverage, the proposition-abstraction process was replicated once. The initial inventory was developed in June-July, 1982, the second in September-October, 1982. The two inventories were compared and contrasted for similarity and completeness. This comparison indicated a 90%+ degree of agreement. Thus, they were judged to be sufficiently similar so as to establish an acceptable degree of reliability for this process.

The second inventory, because of the later compilation date, included some additional references not in the first inventory. Therefore, the second was judged more complete and was used as the subsumption data base.

CATEGORIZATION OF PROPOSITIONS

After abstracting the propositional inventory (Step 1), the statements each recorded on a 5 x 8 card, were sorted and classified "a posteriori". The following outline details the resultant categories developed from the analysis of the propositions.

I. DECLINE
  A. Precedents

  B. Internal Factors
    1. Description
    2. Charter
    3. Physical Plant
    4. Information
    5. Technology
    6. Matter-Energy
    7. Downgrading-Downsizing
    8. Pathology

  C. External Factors
    1. Environment
    2. Political Effects
    3. Public Effects

  D. Personnel Problems
    1. Scapegoats

        2. Innovation
        3. Staff Morale
        4. Advancement
        5. Consensus
        6. Adaptive Responses
        7. Management
        8. Clients
    E. Solutions

II. DEATH
    A. Precedents
    B. Causes

WORD-FREQUENCY, SUBSUMPTION, DEDUCTION AND ARGUMENT

After categorization (Step 1), the remaining steps in Semiotic Analysis (SA) involved creating word-frequency dictionaries and developing subsuming statements based on definition reduction and synonym substitution. Finally from these propositions, sets of hypothetical relationships were established and valid arguments created through logical deduction.

Although it could be considered appropriate to describe each step of the analytic independently for each of the decline and death categories, the decision was made to detail the steps of the analytic in its entirety for each category. Using this method, it was believed, offered continuity of procedure, clarity of thought and explanation and would benefit any future replication of this study or use of Semiotic

Analysis. Recognizing the unorthodoxy of combining methodological explanation with the reporting of results, it was, nonetheless, deemed necessary for this study to facilitate the orderly flow of the research reporting.

After sorting and cataloging the propositions according to the sets and sub-sets identified in the outline (p. 39), the propositions were analyzed and a series of words identified by the researcher as having the greatest subsumption value. The determination of these "power words" was made according to the rules of synonym substitution and definition reduction as outlined in the Ariole Manual (1974).

Using these "power words", in Steps 3 and 4, the propositions containing these words were isolated and subsuming statements developed. These statements represented the others in the set. Within the subsumption process the propositions were referred to by a numerical code consisting of two sets of numbers separated by a colon. The first number indicated the author as listed in the propositional inventory (Chapter II) and the second indicated the number of the proposition under that specific author. For example, 1:1 denoted author number one (Abramowitz) and proposition one under that author ("An automatic reduction in educational costs will not result").

For each subsuming statement (proposition), a subsumption ratio was developed. This indicated the number of statements subsumed to create the proposition. For example, the ratio 1/5 meant that five propositions from the inventory were subsumed into one statement. The idea was to reduce the volume of data without losing the essential meaning of each statement.

In Step 5 the subsuming statements were replaced in the original data collection. In several cases the collection included only subsumed statements, indicating that all statements in the set could be subsumed.

A matrix was used to complete Steps 6 and 7. In this way every relationship was shown in the matrix. Each statement was placed in a hypothetical relationship with each of the other statements in the collection. Each statement assumed the position of both antecedent and consequence. For example, the statement "If p, then q" when placed in a matrix was:

	p	q
p	■	$p \supset q$
q	$q \supset p$	■

A decision as to accept or reject the relationships was made by the researcher. The criteria for this decision-making were two-fold. The first was based on knowledge of the literature held both by the researcher and others. The second was based on the empirical evidence in the literature. A simple code was devised to denote the relationship. In the matrix a (+) indicated acceptance and a (o) rejection.

In the Ariole Manual, Step 8 was the assigning of letter symbols to the final list of statements. In this particular application of SA, the assignment of letters was done before placing the statements in the matrix. This was done because the list of statements, as developed in Step 5, was judged complete and no further subsumptions occurred in Steps 6 or 7.

In Step 9 the symbolic representation, i.e., $A \supset B$, for each of the resultant statements was also placed in the matrix. If the relationship was reversible (accepted when read either way, i.e., $A \supset B$ and $B \supset A$), the symbols were placed in both cells. If one relationship was accepted and the other rejected, a dot (·) was placed in the rejected cell and the accepted relationship was circled. If neither relationship was accepted the cells were x'ed (X) out.

Chain arguments were created in Step 10. This was accomplished by use of the Hypothetical Syllogism. An example of this argument form was:

$p \supset q$ (If p, then q)
$q \supset r$ (If q, then r)
$\therefore p \supset r$ (Therefore, p, then r)

Using the Rules of Inference, each filled cell of the matrix was contained in the argument. Thus, in Step 11, using these resultant arguments, a set of logically-derived conclusions could be developed.

As a reliability check, an independent observer developed relationships, matrices, hypothetical syllogisms and conclusions based on the abstracted propositions. In comparing cells and arguments between researcher and observer, 85% agreement was reached.

As a final note, it would help the reader to substitute the word "decline" or "death", as appropriate, for the word "it" in the propositions.

I. DECLINE

A. PRECEDENTS

Step 2 Word-Frequency

In analyzing the propositions describing Precedents, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Age
inexperience
newness

*Cause
source

*Crisis
conflict
threatening

*Event
occurrence

*Environment
external
internal

*Failure
incoherence
inertia
vulnerability

*Growth

*Incubated
produced

*Occur
arise
begin
making
originate
precipitated
result

*Organization
bureaucratic
industry

*Period

*Preceding

*Success
contentment
easy-money
spectacular

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Success

43:3; 43:4; 50:3 (Step 3)

Subsumption Ratio: 1/3

Subsuming Statement: (Step 4)

It (decline) is incubated in the organization's success.

B. Growth

27:1; 35:3; 46:1; 50:4; 52:3 (Step 3)

Subsumption Ratio: 1/5

Subsuming Statement: (Step 4)

It is preceded by a period of growth.

C. Crisis

10:3; 35:2; 51:6 (Step 3)

Subsumption Ratio: 1/3

Subsuming Statement: (Step 4)

It is preceded by a period of crisis.

D. No Change

10:4; 18:1; 23:4; 26:2 (Step 3)

Subsumption Ratio: 1/4

Subsuming Statement: (Step 4)

It occurs after a period of no change.

E. Events

19:1; 41:1; 41:2 (Step 3)

Subsumption Ratio: 1/3

Subsuming Statement (Step 4)

It occurs as threatening events in the organization's environment.

F. Age

10:16; 10:17; 30:22; 51:27; 51:28 (Step 3)

Subsumption Ratio: 1/5

Subsuming Statement: (Step 4)

The organization's age is the most accurate predictor of organizational failure.

Step 5 Replace the subsuming statements in the original data collection.

1. It (decline) is incubated in the organization's success.
2. It is preceded by a period of growth.
3. It is preceded by a period of crisis.
4. It occurs after a period of no change.
5. It occurs as threatening events in the organization's environment.
6. It occurs because of an identifiable event either internal or external to the organization. (19:1)
7. It occurs before the organization achieves a stable operating level. (15:1)
8. The organization's age is the most accurate predictor of organizational failure.

Further study resulted in subsuming statements 3, 5 and 6 into one statement. It was assumed that "threatening events" and "identifiable events" could be subsumed under the term "crisis". The resultant statement was: "It is preceded by a period of crisis in the organization's environment".

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

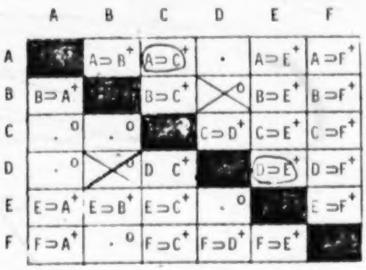
Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as denoted by letters was:

A	It is incubated in the organization's success.
B	It is preceded by a period of growth.
C	It is preceded by a period of crisis in the organization's environment.
D	It occurs after a period of no change.
E	It occurs before the organization achieves a stable operating level.
F	The organization's age is the most accurate predictor of organizational failure.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it is incubated in the organization's success, then it is preceded by a period of growth". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 1.1 indicates the researcher's decision and all hypothetical relationships.

Matrix 1.1



	A	B	C	D	E	F
A		$A \supset B^{+}$	$A \supset C^{+}$	.	$A \supset E^{+}$	$A \supset F^{+}$
B	$B \supset A^{+}$		$B \supset C^{+}$	^{o}	$B \supset E^{+}$	$B \supset F^{+}$
C	. ^{o}	. ^{o}		$C \supset D^{+}$	$C \supset E^{+}$	$C \supset F^{+}$
D	. ^{o}	^{o}	$D \quad C^{+}$		$D \supset E^{+}$	$D \supset F^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$E \supset C^{+}$	. ^{o}		$E \supset F^{+}$
F	$F \supset A^{+}$	. ^{o}	$F \supset C^{+}$	$F \supset D^{+}$	$F \supset E^{+}$	

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) for this set of propositions were:

1)	2)
$B \supset E$	$F \supset C$
$E \supset C$	$C \supset D$
$C \supset D$	$D \supset E$
$D \supset F$	$E \supset B$
$F \supset A$	$B \supset A$
$\therefore B \supset A$	$\therefore F \supset A$

The conclusions were:

$B \supset A$ If it is preceded by a period of growth, then it is incubated in the organization's success.

$F \supset A$ If the organization's age is the most accurate predictor of organizational failure, then it is incubated in the organization's success.

B. INTERNAL FACTORS

1. Description

Step 2 Word-Frequency

In analyzing the propositions on Description, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Adjustments	*Austerity	*Climate	*Describes	*Growth
cutbacks	era of limits	orientation	marks	
end	scarcity			

*Organization	*Period	*Signs	*Suffer
education	era	dimensions	painful
schools	passage	message	severe
segment	phase	symptoms	
	times		

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Signs

3:1; 5:1; 5:43; 10:1; 16:2

Subsumption Ratio: 1/5

Subsuming Statement:

There are objective signs.

B. Adjustments

6:2; 23:1; 51:3; 51:4; 51:5

Subsumption Ratio: 1/5

Subsuming Statement:

It is seen as a period of adjustment.

C. Austerity

5:2; 6:1; 36:1; 46:2

Subsumption Ratio: 1/4

Subsuming Statement:

It marks the beginning of a period of austerity.

D. Growth

23:2; 25:2

Subsumption Ratio: 1/2

Subsuming Statement:

It is the end of growth.

Step 5 Replace the subsuming statements in the original data collection.

1. It is used to describe the general climate in an organization. (51:2)
2. There are objective signs.
3. There is a life-cycle passage. (2:36)
4. Education will be the first major organization to suffer decline. (12:1)
5. It is the end of growth.
6. It is seen as a period of adjustment.
7. It marks the beginning of a period of austerity.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as denoted by letter was:

A It is used to describe the general climate in an organization.

B There are objective signs

C There is a life-cycle passage.

D Education will be the first major organization to suffer decline.

E It is the end of growth.

F It is seen as a period of adjustment.

G It marks the beginning of a period of austerity.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it is used to describe the general climate in an organization, then there are objective signs". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 2.1 indicates the researcher's decisions and all hypothetical relationships.

Matrix 2.1

	A	B	C	D	E	F	G
A	■	$A \supset B^{+}$	$A \supset C^{+}$	☒^{o}	$\cdot^{o}$	$A \supset F^{+}$	$A \supset G^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	$\cdot^{o}$	$\cdot^{o}$	$B \supset F^{+}$	$B \supset G^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■	☒^{o}	$C \supset E^{+}$	$C \supset F^{+}$	$\cdot^{o}$
D	☒^{o}	$D \supset B^{+}$	☒^{o}	■	$D \supset E^{+}$	$D \supset F^{+}$	$D \supset F^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$E \supset C^{+}$	$E \supset D^{+}$	■	$E \supset F^{+}$	$\cdot\cdot^{o}$
F	$F \supset A^{+}$	$F \supset B^{+}$	$F \supset C^{+}$	$\cdot^{o}$	$F \supset E^{+}$	■	$F \supset G^{+}$
G	$G \supset A^{+}$	$G \supset B^{+}$	☒^{o}	$G \supset D^{+}$	$G \supset E^{+}$	$G \supset F^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) for this set of propositions were:

1)	2)	3)	4)	5)	6)
$A \supset B$	$A \supset F$	$C \supset E$	$C \supset F$	$D \supset E$	$D \supset G$
$B \supset C$	$F \supset C$	$E \supset D$	$F \supset B$	$E \supset C$	$G \supset A$
$C \supset E$	$C \supset E$	$D \supset G$	$B \supset A$	$C \supset F$	$A \supset B$
$E \supset D$	$E \supset D$	$G \supset B$	$A \supset G$	$F \supset B$	$B \supset F$
$D \supset G$	$D \supset G$	$B \supset A$	$G \supset D$	$B \supset A$	$F \supset C$
$G \supset F$	$G \supset B$	$A \supset F$	$D \supset E$	$A \supset G$	$C \supset E$
$\therefore A \supset F$	$\therefore A \supset B$	$\therefore C \supset F$	$\therefore C \supset E$	$\therefore D \supset G$	$\therefore D \supset E$

The conclusions were:

$A \supset F$	If it is used to describe the general climate in an organization, then it is seen as a period of adjustment.
$A \supset B$	If it is used to describe the general climate in an organization, then there are objective signs.
$C \supset F$	If there is a life-cycle passage, then it is seen as a period of adjustment.
$C \supset E$	If there is a life-cycle passage, then it is the end of growth.
$D \supset G$	If education will be the first major organization to suffer decline, then it marks the beginning of a period of austerity.
$D \supset E$	If education will be the first major organization to suffer decline, then it is the end of growth.

2. Charter

There was only one proposition that dealt with Charter. Nonetheless, it was deemed significant and therefore isolated for inclusion. The proposition was:

> If there is decline in the organization, then it occurs because of defects in the charter. (38:17)

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Beginning with Step 8, for clarification purposes, the final list of statements as denoted by letter was:

A	There is decline in the organizatin.
B	It occurs because of defects in the charter.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If there is decline in the organization, then it occurs because of defects in the charter". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 2.2 indicates the researcher's decisions and all hypothetical relationships.

Matrix 2.2

	A	B
A	■	$A \supset B^{+}$
B	$B \supset A^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset B$ If there is decline in the organization, then it occurs because of defects in the charter.

3. Physical Plant

Step 2 Word-Frequency

In analyzing the propositions on Physical Plant, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Physical Plant	*Problems
facilities	manifestation

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements;

A. Physical Plant

25:9; 42:13

Subsumption Ratio: 1/2

Subsuming Statement:

The most visible problem is in the state of the physical plant.

Step 5 Replace subsuming statements in the original data collection.

1. The most visible problem is in the state of the physical plant.
2. Maintenance is deferred. (26:8)

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as denoted by letter was:

A The most visible problem is in the state of the physical plant.

B Maintenance is deferred.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If the most visible problem is in the state of the physical plant, then maintenance is deferred". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 2.3 indicates the researcher's decisions and all hypothetical relationships.

Matrix 2.3

	A	B
A	■	$A \supset B^+$
B	$B \supset A^+$	■

Step 10 Create a valid hypothetical argument which uses or implies all the relationships in the matrix.

The conclusion was:

A⊃B If the most visible problem is in the state of the physical plant, then maintenance is deferred.

4. Information

Step 2 Word-Frequency

In analyzing the propositions on Information, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Financial
accounting
market costs

*Flows
feedback
inputs
outputs

*Information
analytic capacity
loop
reporting system

*Occurs
comes
lies
results

*Organization
company
system

*Pathologies
blockages
defects
disintegration
disorders
distortions
excesses

inadequate

instability

lack

uncertainty

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Flows

22:7; 23:8; 31:4; 38:8; 38:15; 38:16; 38:20; 38:21; 44:10; 48:2

Subsumption Ratio: 1/10

Subsuming Statement:

It occurs because of pathologies in information flows.

B. Decisions

22:3; 25:6; 48:3

Subsumption Ratio: 1/3

Subsuming Statement:

Management decisions affecting the organization are made based on pathological information.

C. Financial Information

3:3; 22:5; 26:9; 44:6

Subsumption Ratio: 1/4

Subsuming Statement:

One of the structural pathologies is financial information.

Step 5 Replace subsuming statements in original data collection.

1. It occurs because of pathologies in information flows.
2. Management decisions affecting the organization are made based on pathological information.
3. One of the structural pathologies is financial information.

Further study resulted in subsuming statements 1 and 3. If statement 3 on "financial information" can be assumed to be part of "total information flow", then the subsumption of the two statements is appropriate.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A It occurs because of pathologies in information flows.

B Management decisions affecting the organization are made based on pathological information.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it occurs because of pathologies in information flows, then management decisions affecting the organization are made based on pathological information". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 2.4 indicates the researcher's decisions and all hypothetical relationships.

Matrix 2.4

	A	B
A	■	$A \supset B^+$
B	$B \supset A^+$	■

Step 10 Create a valid hypothetical argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset B$ It if occurs because of pathologies in information flows, then management decisions affecting the organization are made based on pathological information.

5. Technology

Step 2 Word-Frequency

In analyzing the propositions on Technology, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Caused
results
traceable

*Innovation

*Loss
dissipation
ineptly

*Obsolescence
evolution

*Organization

*Superiority

*Technological
scientific

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Loss-Superiority
10:9; 10:10; 31:5
Subsumption Ratio: 1/3
Subsuming Statement:
It results from a loss of technological superiority.

B. Obsolescence
10:11; 26:14
Subsumption Ratio: 1/2
Subsuming Statement:
It is caused by growing technological obsolescence which the organization meets ineptly.

Step 5 Replace subsuming statements in the original data collection.

1. It results from a loss of technological superiority.
2. It is caused by technological obsolescence which the organization meets ineptly.

Step 6 Establish a hypothetical (if, then) relationship with each of the paired statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A It results from a loss of technological superiority.

B It is caused by growing technological obsolescence which the organization meets ineptly.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it results from a loss of technological superiority, then it is caused by growing technological obsolescence which the organization meets ineptly". A decision whether to accept (+) or reject(o) these relationships was made. Matrix 2.5 indicates the researcher's decisions and all hypothetical relationships.

Matrix 2.5

$$\begin{array}{c|c|c} & A & B \\ \hline A & \blacksquare & A \supset B^{+} \\ \hline B & B \supset A^{+} & \blacksquare \end{array}$$

Step 10 Create a valid hypothetical argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset B$ It if results from a loss of technological superiority, then it is caused by growing technological obsolescence which the organization meets ineptly.

6. Matter-Energy

Step 2 Word-Frequency

In analyzing the propositions on Matter-Energy, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Abnormalities
crisis
defects
disturbances
inadequacies
pressures

*Decline
cutback
falls apart
slides
undermining

*Matter-Energy
equilibrium
internal
steady-states

*Occur
come
inflicts
originate
responsible for

*Organization
business
system

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Internal Matter-Energy Processes

19:4; 26:13; 27:6; 30:4; 38:9; 38:12; 38:13; 38:18; 44:3; 51:15

Subsumption Ratio: 1/10

Subsuming Statement:

It may occur because of abnormalities in internal matter-energy processes.

B. Abnormalities

44:11; 44:14

Subsumption Ratio: 1/2

Subsuming Statement:

The processes which produced the abnormalities are substantially identical with the processes which produced success.

C. Self-Inflicted

43:2; 45:1

Subsumption Ratio: 1/2

Subsuming Statement:

The organization inflicts it (decline) on itself.

Step 5 Replace subsuming statements in original data collection.

1. It occurs because of abnormalities in internal matter-energy processes.
2. The processes which produced the abnormalities are substantially identical with the processes which produced success.
3. The organization inflicts it (decline) on itself.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A It occurs because of abnormalities in internal matter-energy processes.

B The processes which produced the abnormalities are substantially identical with the processes which produced success.

C The organization inflicts it (decline) on itself.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it occurs because of abnormalities in internal matter-energy processes, then the processes which produced the abnormalities are substantially identical with the processes which produced success". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 2.6 indicates the researcher's decisions and all hypothetical relationships.

Matrix 2.6

	A	B	C
A	■	$A \supset B^{+}$	$A \supset C^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■

Step 10 Create a valid hypothetical argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset C$ If it occurs because of abnormalities in internal matter-energy processes, then the organization inflicts it (decline) on itself.

7. Downgrading-Downsizing

Step 2 Word-Frequency

In analyzing the propositions on Downgrading-Downsizing, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Downgrading	*Downsizing
falling rate of productivity	cutbacks in number of clients
investments postponed	cutbacks in size of the organization
lower quality	cutbacks in size of the workforce
reduction in extra-curricular activities	loss of economies of scale
results orientation decreases	

*Growth *Organization *Well-being

increased

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Downgrading

2:1; 2:2; 3:2; 17:3; 24:3; 26:7; 27:4; 28:1; 34:3; 34:4; 42:3; 42:5

Subsumption Ratio: 1/12

Subsuming Statement:

There is downgrading in the organization.

B. Downsizing

10:5; 10:6; 10:8; 17:5; 20:2; 24:2; 51:9; 51:10

Subsumption Ratio: 1/8

Subsuming Statement:

There is downsizing in the organization.

C. Overall Well-Being

24:4; 34:2

Subsumption Ratio: 1/2

Subsuming Statement:

There is growing unease about the organization's overall well-being.

Step 5 Replace subsuming statements in original data collection.

1. There is downgrading in the organization.

2. There is downsizing in the organization.
3. There is growing unease about the organization's overall well-being.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A There is downgrading in the organization.
B There is downsizing in the organization.
C There is growing unease about the organization's overall economic well-being.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If there is downgrading in the organization, then there is downsizing". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 2.7 indicates the researcher's decisions and all hypothetical relationships.

Matrix 2.7

	A	B	C
A	■	$A \supset B^{+}$	$A \supset C^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$
C	. ^{0}	. ^{0}	■

Step 10 Create a hypothetical argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset B$ If there is downgrading in the organization, then there is downsizing.

8. Pathology

Step 2 Word-Frequency

In analyzing the propositions on Pathology, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Actions	*Causes	*Diagnosis	*Erosion	*Finance
interference	aspects	recognition	constriction	money
intervention	issue	understand	decline	support
manipulation	root cause		decreased	
			seize	

*Health
- quality
- rigor

*Occur
- result
- set in

*Organization
- country
- groups
- school board
- school district

*Pathology
- disease

*Symptoms
- characteristics
- evidence
- indicators
- signs
- variables

*Trauma
- failure
- impact
- problem

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Symptoms

10:14; 30:5; 38:1; 38:2; 38:3; 38:4; 44:2

Subsumption Ratio: 1/7

Subsuming Statement:

The generally accepted symptoms of pathology differ from one type of an organization to another.

B. Causes

26:1; 43:6; 51:11; 52:2

Subsumption Ratio: 1/4

Subsuming Statement:

The focus is on combating symptoms rather than solving the causes of the pathology.

C. Visibility

11:1; 25:1

Subsumption Ratio: 1/2

Subsuming Statement:

The root-cause must become visible in the organization.

D. Erosion

23:3; 24:1; 26:31; 30:21; 38:5; 44:1; 47:1; 50:1

Subsumption Ratio: 1/8

Subsuming Statement:

There is erosion of the health of the organization.

E. Trauma

6:3; 25:24; 39:1

Subsumption Ratio: 1/3

Subsuming Statement:

Every pathology becomes traumatic.

F. Health

5:3; 7:1; 12:12

Subsumption Ratio: 1/3

Subsuming Statement:

There are opportunities for improving the health of the organization.

Step 5 Replace subsuming statements in original data collection.

1. The generally accepted symptoms of pathology differ from one type of organization to another.
2. The focus is on combating symptoms rather than solving the causes of the pathology.
3. The root-cause must become visible in the organization.
4. There is erosion of the health of the organization.
5. Every pathology becomes traumatic.
6. There are opportunities for improving the health of the organization.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A The generally accepted symptoms of pathology differ from one type of organization to another.

B The focus is on combating symptoms rather than solving the causes of the pathology.

C The root-cause must become visible in the organization.

D There is erosion of the health of the organization.

E Every pathology becomes traumatic.

F There are opportunities for improving the health of the organization.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If the generally accepted symptoms of pathology differ from one type of organization to another, then the focus is on combating symptoms rather than solving the causes of the pathology". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 2.8 indicated the researcher's decisions and all hypothetical relationships.

Matrix 2.8

	A	B	C	D	E	F
A	■	$A \supset B^+$	$A \supset C^+$	$A \supset D^+$	$A \supset E^+$	$A \supset F^+$
B	$B \supset A^o$	■	$B \supset C^+$	$B \supset D^+$	$B \supset E^+$	$B \supset F^+$
C	$C \supset A^+$	$C \supset B^+$	■	$C \supset D^+$	$C \supset E^+$	$C \supset F^+$
D	$D \supset A^+$	$D \supset B^+$	$D \supset C^+$	■	$D \supset E^+$	$D \supset F^+$
E	$E \supset A^+$	$E \supset B^+$	$E \supset C^+$	$E \supset D^+$	■	☒ o
F	$F \supset A^+$	$F \supset B^+$	$F \supset C^+$	o	☒ o	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid arguments for this set of propositions were:

1)	2)	3)	4)	5)	6)
$A \supset F$	$A \supset E$	$B \supset A$	$B \supset E$	$C \supset A$	$C \supset E$
$F \supset B$	$E \supset C$	$A \supset F$	$E \supset C$	$A \supset F$	$E \supset B$
$B \supset C$	$C \supset F$	$F \supset C$	$C \supset F$	$F \supset B$	$B \supset F$
$C \supset D$	$F \supset B$	$C \supset D$	$F \supset A$	$B \supset D$	$F \supset A$
$D \supset E$	$B \supset D$	$D \supset E$	$A \supset D$	$D \supset E$	$A \supset D$
$\therefore A \supset E$	$\therefore A \supset D$	$\therefore B \supset E$	$\therefore B \supset D$	$\therefore C \supset E$	$\therefore C \supset D$

The conclusions were:

$A \supset E$ If the generally accepted symptoms of pathology differ from one type of organization to another, then every pathology becomes traumatic.

$A \supset D$ If the generally accepted symptoms of pathology differ from one type of organization to another, then there is erosion of the health of the organization.

$B \supset E$ If the focus is on combating symptoms rather than solving the causes of the pathology, then every pathology becomes traumatic.

$B \supset D$ If the focus is on combating symptoms rather than solving the causes of the pathology, then there is erosion of the health of the organization.

$C \supset E$ If the root-cause must become visible in the organization, then every pathology becomes traumatic.

$C \supset D$ If the root-cause must become visible in the organization, then there is erosion of the health of the organization.

C. EXTERNAL FACTORS

1. Environment

Step 2 Word-Frequency

In analyzing the propositions on Environment, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

- *Actions
  - interference
  - intervention
  - manipulation
- *Atrophy
- *Changes
  - adjustment
  - deviating
  - elimination
  - evolved
  - reorganization
  - shifts
- *Characteristics
  - features
  - signals
  - signs

- *Decreases
  - cuts
  - cutbacks
  - decline
  - down spiral
  - erodes
  - failure
  - loss
  - shortages
  - shrinking
  - stagnation
- *Entropy
- *Environment
  - external
  - internal
- *Government
  - political
- *Hostility
  - conflicts
  - contending
  - turbulence

- *Occurs
  - causes
  - forces
  - fuels
  - leads to
  - produces
- *Organization
  - district
  - education
  - firm
  - institution
  - private sector
  - public sector
- *Resources
  - affluence
  - allocation
  - financial
  - funds
  - money
  - profits
  - revenue
- *Scarce
  - diminution
  - faulty
  - insufficient
  - less munificent
  - reduction
  - spare
  - stringent
- *Smaller
  - less
  - reduced

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Environmental Entropy

21:5; 26:6; 26:11; 30:7; 30:8; 30:11; 31:2; 34:1; 48:3, 51:7; 51:8; 51:12

Subsumption Ratio: 1/12

Subsuming Statement:

Environmental entropy occurs when the capacity of the environment to support the levels of organizational activities decreases.

B. External-Internal Pressures

26:12; 27:3; 27:5; 42:4; 44:8; 51:14

Subsumption Ratio: 1/6

Subsuming Statement:

The environmental pressures may have greater impact on the organization than the internal ones.

C. Decreasing Resources

16:7; 17:1; 19:3; 26:6; 35:4

Subsumption Ratio: 1/5

Subsuming Statement:

Decreasing resources cause organizational decline.

D. Government Actions

10:2; 30:10; 33:2; 33:3

Subsumption Ratio: 1/4

Subsuming Statement:

Environmental entropy may be hastened by government actions.

E. Hostile Environment

13:1; 25:5; 35:5; 43:7; 46:3

Subsumption Ratio: 1/5

Subsuming Statement:

The organization may have a hostile environment.

F. Cost Decreases

1:1; 20:3; 20:4; 42:11

Subsumption Ratio: 1/4

Subsuming Statement:

The cost of delivering organizational services does not decrease in direct proportion to decreases in the number of clients.

G. Organizational Atrophy

4:1; 21:1; 21:2; 22:1; 22:2; 23:7; 26:10; 30:3; 44:7; 51:13

Subsumption Ratio: 1/10

Subsuming Statement:

Organizational atrophy occurs when the organization is unresponsive to environmental changes.

H. Planning

6:6; 24:5; 30:9; 31:3

Subsumption Ratio: 1/4

Subsuming Statement:

There needs to be increased emphasis on planning.

I. "Shrinking"

16:4; 16:5; 16:6

Subsumption Ratio: 1.3

Subsuming Statement:

The "shrinking" (decreasing) of an organization is a resource-consuming process.

Step 5 Replace subsuming statements in the original data collection.

1. Environmental entropy occurs when the capacity of the environment to support the levels of organizational activities decreases.
2. The environmental pressures may have greater impact on the organization than the internal ones.
3. Decreasing resources cause organizational decline.
4. Environmental entropy may be hastened by government actions.
5. The organization may have a hostile environment.
6. The cost of delivering organizational services does not decrease in direct proportion to decreases in the number of clients.
7. Organizational atrophy occurs when the organization is unresponsive to environmental change.
8. There needs to be increased emphasis on planning.
9. The "shrinking" (decreasing) of an organization is a resource-consuming process.

Further study resulted in subsuming statement 5 into statement 1. It was assumed that "decreased support capacity of the environment" and "hostile environment" were synonymous. The resultant statement was "Environmental entropy occurs when the capacity of the environment to support the levels of organizational activities decreases".

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A	Environmental entropy occurs when the capacity of the environment to support the levels of organizational activities decreases.
B	The environmental pressures may have greater impact on the organization than the internal ones.
C	Decreasing resources can hasten organizational decline.
D	Environmental entropy may be hastened by government actions.
E	The cost of delivering organizational services does not decrease in direct propostion to decreases in the number of clients.
F	Organizational atrophy occurs when the organization is unresponsive to environmental change.
G	There needs to be increased emphasis on planning.

H The "shrinking" (decreasing) of an organization is a resource-consuming process.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If environmental entropy occurs when the capacity of the organization to support the levels of organizational activities decreases, then the environmental pressures may have greater impact on the organization than the internal ones". A decision whether to accept (+) or reject (o) these relationships was made. Matrix 3.1 indicated the researcher's decisions and all hypothetical relationships.

Matrix 3.1

	A	B	C	D	E	F	G	H
A	■	$A \supset B^{+}$	$A \supset C^{+}$	$A \supset D^{+}$	$A \supset E^{+}$	$A \supset F^{+}$	$A \supset G^{+}$	$A \supset H^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	$B \supset D^{+}$	$\cdot\ ^{o}$	$B \supset F^{+}$	$B \supset G^{+}$	$\cdot\ ^{o}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■	$C \supset D^{+}$	$\cdot\ ^{o}$	$C \supset F^{+}$	$C \supset G^{+}$	$\cdot\ ^{o}$
D	$D \supset A^{+}$	$D \supset B^{+}$	$D \supset C^{+}$	■	╳ ^{o}	$D \supset F^{+}$	$D \supset G^{+}$	$D \supset H^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$E \supset C^{+}$	╳ ^{o}	■	$E \supset F^{+}$	$E \supset G^{+}$	$E \supset H^{+}$
F	$F \supset A^{+}$	$F \supset B^{+}$	$F \supset C^{+}$	$F \supset D^{+}$	$\cdot\ ^{o}$	■	$F \supset G^{+}$	$F \supset H^{+}$
G	$G \supset A^{+}$	$G \supset B^{+}$	$G \supset C^{+}$	$G \supset D^{+}$	$G \supset E^{+}$	$G \supset F^{+}$	■	$G \supset H^{+}$
H	$H \supset A^{+}$	$H \supset B^{+}$	$H \supset C^{+}$	$H \supset D^{+}$	$H \supset E^{+}$	$H \supset F^{+}$	$H \supset G^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

1)	2)	3)	4)	5)	6)
$A \supset B$	$A \supset G$	$B \supset F$	$B \supset G$	$C \supset F$	$C \supset G$
$B \supset F$	$G \supset E$	$F \supset A$	$G \supset E$	$F \supset B$	$G \supset E$
$F \supset C$	$E \supset H$	$A \supset C$	$E \supset H$	$B \supset A$	$E \supset H$
$C \supset D$	$H \supset D$	$C \supset D$	$H \supset D$	$A \supset D$	$H \supset D$
$D \supset H$	$D \supset C$	$D \supset H$	$D \supset C$	$D \supset H$	$D \supset A$
$H \supset E$	$C \supset B$	$H \supset E$	$C \supset A$	$H \supset E$	$A \supset B$
$E \supset G$	$B \supset F$	$E \supset G$	$A \supset F$	$E \supset G$	$B \supset F$
$\therefore A \supset G$	$\therefore A \supset F$	$\therefore B \supset G$	$\therefore B \supset F$	$\therefore C \supset G$	$\therefore C \supset F$

The conclusions were:

$A \supset G$	If environmental entropy occurs when the capacity of the environment to support the levels of organizational activities decreases, then there needs to be increased emphasis on planning.
$A \supset F$	If environmental entropy occurs when the capacity of the environment to support the levels of organizational activities decreases, then organizational atrophy occurs when the organization is unresponsive to environmental change.
$B \supset G$	If environmental pressures have greater impact on the organization than the internal ones, then there needs to be increased emphasis on planning.
$B \supset F$	If environmental pressures have greater effect on the organization than the internal ones, then organizational atrophy occurs when the organization is unresponsive to environmental changes.
$C \supset G$	If decreasing resources cause organizational decline, then there needs to be increased emphasis on planning.
$C \supset F$	If decreasing resources cause organizational decline, then organizational atrophy occurs when the organization is unresponsive to environmental change.

2. Political Effects

Step 2 Word-Frequency

In analyzing the propositions on Political Effects, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Decrements
 loss

*Legitimacy
 predictability
 stability

*Needs
 claims

*Organization

*Political
 interest groups
 legislature

*Vulnerability
 failure
 fragility
 uncertainty

*Support

*Survival

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Vulnerability

27:2; 30:6; 46:6; 51:17; 51:18

Subsumption Ratio: 1/5

Subsuming Statement:

There is organizational vulnerability based on a lack of political support.

B. Survival

7:2; 48:1

Subsumption Ratio: 1/2

Subsuming Statement:

The organization will seek political support to insure its survival.

Step 5 Replace subsuming statements in the original data collection.

1. There is organizational vulnerability based on a lack of political support.
2. The organization will seek political support to insure survival.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A There is organizational vulnerability based on a lack of political support.

B The organization will seek political support to insure its survival.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If there is organizational vulnerability based on a lack of political support, then the organization will seek political support to insure survival". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 3.2 indicated the researcher's decisions and all hypothetical relationships.

Matrix 3.2

	A	B
A	■	$A \supset B^+$
B	$B \supset A^+$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset B$ If there is organizational vulnerability based on a lack of political support, then the organization will seek political support to insure survival.

3. Public Effects

Step 2 Word-Frequency

In analyzing the propositions on Public Effects, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Confidence

*Confusion
conflict
criticisms

*Decline
atrophied
failed
loss
lowering

*Expectations
demands
pressures

*Organization
common school
education
public sector
school system

*Philosophy
vital idea

*Public
comminity
parents
people

*Survival

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Survival

7:1; 42:6; 42:7

Subsumption Ratio: 1/3

Subsuming Statement:

Public support will be sought to insure organizational survival.

B. Confidence

5:16; 6:7; 16:8; 16:9; 25:8; 25:10; 25:11; 27:7; 27:8; 31:6; 49:1; 50:6; 50:7

Subsumption Ratio: 1/13

Subsuming Statement:

In an organization it (decline) is accompanied by a decline in public confidence.

C. Criticism

5:15; 6:16; 27:7

Subsumption Ratio: 1/3

Subsuming Statement:

Criticism of the organization is a symptom that the public is unable to understand the problems of the organization.

Step 5 Replace subsuming statements in the original data collection.

1. Public support will be sought to insure organizational survival.
2. In an organization it (decline) is accompanied by a decline in public confidence.
3. Criticism of the organization is a symptom that the public is unable to understand the problems of the organization.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A Public support will be sought to insure organizational survival.

B In an organization it (decline) is accompanied by a decline in public confidence.

C Criticism of the organization is a symptom that the public is unable to understand the problems of the organization.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If public support will be sought to insure organizational survival, then in an organization it (decline) is accompanied by a decline in public confidence". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 3.3 indicated the researcher's decisions and all hypothetical relationships.

Matrix 3.3

	A	B	C
A	■	$A \supset B^{+}$	$A \supset C^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

1)	2)
$A \supset B$	$A \supset C$
$\underline{B \supset C}$	$\underline{C \supset B}$
$\therefore A \supset C$	$\therefore A \supset B$

The conclusions were:

$A \supset C$ If public support will be sought to insure organizational survival, then criticism of the organization is a symptom that the public is unable to understand the problems of the organization.

$A \supset B$ If public support will be sought to insure organizational survival, then in an organization it (decline) is accompanied by a decline in public confidence.

D. PERSONNEL PROBLEMS

1. Scapegoats

Step 2 Word-Frequency

In analyzing the propositions on Scapegoats, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Bad	*Responsibility	*Scapegoats
threatened	blame	people
		someone

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Scapegoats
2:26; 5:37; 25:17; 26:27
Subsumption Ratio: 1/4

Subsuming Statement:

There is a search for scapegoats.

Step 5 Replace subsuming statements in the original data collection.

1. There is a search for scapegoats.
2. The collective sense of responsibility is threatened. (50:16)

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A	There is a search for scapegoats.
B	The collective sense of responsibility is threatened.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If there is a search for scapegoats, then the collective sense of responsibility is threatened". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.1 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.1

	A	B
A	■	$A \supset B^+$
B	$B \supset A^+$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset B$ If there is a search for scapegoats, then the collective sense of responsibility is threatened.

2. Innovation

Step 2 Word-Frequency

In analyzing the propositions on Innovation, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Decreases
cut
entrenchment
inertia
reduced
stymies

*Enthusiasm
desire
eagerness
support

*Innovation
challenge
divergent thinking
imagination
risk-taking

*Occur
cause
come

*Organization
inter-organizational

*Resistant

*Solutions
activity
attempts
responses

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Innovation

2:19; 26:4; 31:10; 52:5

Subsumption Ratio: 1/4

Subsuming Statement:

There is the need to facilitate innovative thinking.

B. Innovation-Resistant

2:22; 2:23; 5:35; 21:16; 43:10; 44:5; 51:23; 52:7

Subsumption Ratio: 1/8

Subsuming Statement:

The organization may be innovation-resistant.

C. Innovation-Enthusiasm

2:17; 2:18; 2:20; 2:21; 2:25; 2:30; 24:7; 25:15; 25:21; 28:2; 31:11; 32:1

Subsumption Ratio: 1/12

Subsuming Statement:

There is little enthusiasm for innovation.

D. Essential

11:2; 26:20; 33:6; 50:8

Subsumption Ratio: 1/4

Subsuming Statement:

To innovate, one must determine what is essential.

Step 5 Replace subsuming statements in the original data collection.

1. There is the need to facilitate innovative thinking.
2. The organization may be innovation-resistant.
3. There is little enthusiasm for innovation.
4. To innovate, one must decide what is essential.
5. For every innovation some existing activity must be decreased. (14:25)

Step 6 Establish a hypothetical (if, then) relationship with each of the statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A	There is the need to facilitate innovative thinking.
B	The organization may be innovation-resistant.
C	There is little enthusiasm for innovation.
D	To innovate, one must decide what is essential.
E	For every innovation some existing activity must be decreased.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If there is the need to facilitate innovative thinking, then the organization may be innovation-resistant". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.2 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.2

	A	B	C	D	E
A	■	$A \supset B^{+}$	$\cdot^{o}$	$A \supset D^{+}$	$A \supset E^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	$B \supset D^{+}$	$B \supset E^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■	$C \supset D^{+}$	$C \supset E^{+}$
D	$D \supset A^{+}$	$D \supset B^{+}$	$D \supset C^{+}$	■	$D \supset E^{+}$
E	$\cdot^{o}$	$E \supset B^{+}$	$E \supset C^{+}$	$E \supset D^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

$$\begin{array}{llllll}
 & 1) & & 2) & & 3) \\
 & A \supset B & & A \supset D & & C \supset E \\
 & B \supset C & & D \supset C & & E \supset B \\
 & C \supset E & & C \supset E & & B \supset A \\
 & \underline{E \supset D} & & \underline{E \supset B} & & \underline{A \supset D} \\
\therefore & A \supset D & \therefore & A \supset B & \therefore & C \supset D
\end{array}$$

The conclusions were:

$A \supset D$ If there is the need to facilitate innovative thinking, then to innovate one must decide what is essential.

$A \supset B$ If there is the need to facilitate innovative thinking, then the organization may be innovation-resistant.

$C \supset D$ If there is little enthusiasm for innovation, then to innovate one must decide what is essential.

3. Staff Morale

Step 2 Word-Frequency

In analyzing the propositions on Staff Morale, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Attitudes-Feelings
ambiguity
apathy
confusion
disenchantment
disillusionment
exhausted
hopelessness
contradiction
powerlessness
self-doubt
stress
urgency

*Decreases
abates
declines
deterioration
diminishes
disrupt
erodes
less effective
loss
out-of-control
reduction
restrict
shattered

*Loyalty

*Morale
certainty
confidence
contentment
joy

*Motivation
aspirations
incentive

*Negative
counter-productive
dissatisfaction
lack-of-interest

prevailing mood

state-of-mind

*Organization

education

public education

school

society

sub-system

*Staff

administrators

groups

key members

people

school personnel

*Traditional Values

basic beliefs

ideology

philosophy

spirituality

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Negative Attitudes

2:27; 5:6; 5:38; 5:39; 17:11; 25:13; 34:7; 37:1; 38:14; 42:17; 43:11; 49:4; 51:25

Subsumption Ratio: 1/13

Subsuming Statement:

Negative, counter-productive personnel attitudes are intensified.

B. Values

39:2; 39:3; 39:5; 39:6; 42:27; 46:4; 47:8; 48:9; 52:9; 52:10

Subsumption Ratio: 1/10

Subsuming Statement:

There is general confusion in traditional values.

C. Decreased Motivation

2:29; 2:31; 2:35; 24:10; 25:18; 25:20; 26:29; 34:6

Subsumption Ratio: 1/8

Subsuming Statement:

There is a decrease in motivation for best performance.

D. Loyalty

29:2; 29:3; 49:5; 50:17

Subsumption Ratio: 1/4

Subsuming Statement:

Loyalty to the organization decreases.

E. Morale

2:33; 3:5; 5:26; 5:40; 11:3; 16:14; 17:12; 18:2; 24:8; 24:9; 25:19; 25:21; 25:22; 26:30; 35:8; 37:2; 39:4; 42:28; 51:26

Subsumption Ratio: 1/19

Subsuming Statement:

There is a decrease in the morale of organizational staff.

Step 5 Replace subsuming statements in the original data collection.

1. Negative, counter-productive personnel attitudes are intensified.
2. There is general confusion in traditional values.
3. There is a decrease in motivation for best performance.
4. There is a decrease in the morale of organizational staff.
5. There is a desire for certainty. (26:28)

Step 6 Establish a hypothetical (if, then) relationship with each of the the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A	Negative, counter-productive personnel attitudes are intensified.
B	There is general confusion in traditional values.
C	There is a decrease in motivation for best performance.
D	Loyalty to the organization decreases.
E	There is a decrease in the morale of organizational staff.
F	There is a desire for certainty.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If negative, counter-productive personnel attitudes are intensified, then there is general confusion in traditional values". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.3 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.3

	A	B	C	D	E	F
A	■	$A \supset B^{+}$	$A \supset C^{+}$	$A \supset D^{+}$	$A \supset E^{+}$	$A \supset F^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	$B \supset D^{+}$	$B \supset E^{+}$	$B \supset F^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■	$C \supset D^{+}$	$C \supset E^{+}$	$C \supset F^{+}$
D	$D \supset A^{+}$	$D \supset B^{+}$	$D \supset C^{+}$	■	$D \supset E^{+}$	$D \supset F^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$E \supset C^{+}$	$E \supset D^{+}$	■	$E \supset F^{+}$
F	$\cdot\ ^{0}$	$F \supset B^{+}$	$F \supset C^{+}$	$\cdot\ ^{0}$	$F \supset E$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

1)	2)	3)
$A \supset B$	$A \supset C$	$E \supset D$
$B \supset D$	$C \supset D$	$D \supset F$
$D \supset F$	$D \supset E$	$F \supset C$
$F \supset E$	$E \supset F$	$C \supset B$
$E \supset C$	$F \supset B$	$B \supset A$
$\therefore A \supset C$	$\therefore A \supset B$	$\therefore E \supset A$

The conclusions were:

$A \supset C$ If negative, counter-productive personnel attitudes are intensified, then there is a decrease in motivation for best performance.

$A \supset B$ If negative, counter-productive personnel attitudes are intensified, then there is general confusion in traditional values.

$E \supset A$ If there is a decrease in the morale of organizational staff, then negative, counter-productive personnel attitudes are intensified.

4. Advancement

Step 2 Word-Frequency

In analyzing the propositions on Advancement, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Age
  older
  rising age
  younger

*Chances
  opportunities

*Job Anxiety
  attrition
  hard times
  hiring freeze

*Laying-Off
  bumped
  fired
  released

*Organization
  district-level
  school boards

*Personnel
  administrators
  employees
  human resources
  labor force
  leadership
  people
  professionals
  staff
  teacher corps

*Problems
  characteristics
  handicaps

*Promotion
  advancement
  career patterns
  jobs
  job opportunities
  job security
  position
  professional mobility
  promotion
  safety net

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Limited Promotion

5:30; 5:32; 16:12; 34:5; 35:6; 42:21; 47:2; 51:21

Subsumption Ratio: 1/8

Subsuming Statement:

There is an oversupply of qualified personnel with few opportunities for advancement.

B. Job Anxiety

2:13; 5:27; 5:28; 5:29; 42:16

Subsumption Ratio: 1/5

Subsuming Statement:

It is a time of high anxiety for organizational personnel.

C. Leave

2:14; 29:1; 52:6

Subsumption Ratio: 1/3

Subsuming Statement:

Better personnel leave the organization.

D. Age

5:31; 5:34; 12:5; 16:11; 35:7

Subsumption Ratio: 1/5

Subsuming Statement:

Personnel tend to age.

E. Longer Tenure

5:33; 38:11; 40:3

Subsumption Ratio: 1/3

Subsuming Statement:

Personnel tend to remain in their jobs for longer periods of time.

F. Survival

2:12; 2:15; 7:7; 42:24

Subsumption Ratio: 1/4

Subsuming Statement:

Personnel adopt new survival strategies that create new problems.

G. Problems

5:11; 17:9; 22:6; 22:9; 34:5; 42:18; 42:25; 51:22

Subsumption Ratio: 1/8

Subsuming Statement:

There are pervasive and difficult to resolve personnel problems.

H. Lay-Offs

5:12; 42:19; 42:20; 42:23

Subsumption Ratio: 1/4

Subsuming Statement:

The organization must make decisions about laying-off personnel.

I. New Personnel

31:8; 31:9; 42:22; 46:3

Subsumption Ratio: 1/4

Subsuming Statement:

It is difficult to attract new personnel to the organization.

Step 5 Replace subsuming statements in original data collection.

1. There is an oversupply of qualified personnel with few opportunities for advancement.
2. It is a time of high anxiety for organizational personnel.
3. Better personnel leave the organization.
4. Personnel tend to age.
5. Personnel tend to remain in their jobs for longer periods of time.
6. Personnel adopt new survival strategies that create new problems.
7. There are pervasive and difficult to resolve personnel problems.
8. The organization must make decisions about laying-off personnel.
9. It is difficult to attract new personnel to the organization.

Further study resulted in subsuming statements 1 and 5 into one statement. It was assumed that "remaining in position for longer periods of time" was synonymous with "few opportunities for advancement". The resultant statement was "There is an oversupply of personnel with few opportunities for advancement". Additionally, statements 4, 6 and 8 were subsumed by statement 7. The assumption in this case was that "age of personnel", "survival strategies that create new problems" and "laying-off personnel" were "pervasive and difficult to resolve personnel problems". The resultant statement was "Personnel problems are pervasive and difficult to resolve".

Step 6 Establish a hypothetical (if, then) relationship with each of the statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A There is an oversupply of qualified personnel with few opportunities for advancement.

B It is a time of high anxiety for organizational personnel.

C Better personnel leave the organization.

D Personnel problems are pervasive and difficult to resolve.

E It is difficult to attract new personnel to the organization.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If there is an oversupply of qualified personnel with few opportunities for advancement, then it is a time of high anxiety for organizational personnel". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.4 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.4

	A	B	C	D	E
A	■	$A \supset B^{+}$	$A \supset C^{+}$	$A \supset D^{+}$	$A \supset E^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	$B \supset D^{+}$	$B \supset E^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■	$C \supset D^{+}$	$C \supset E^{+}$
D	$\cdot\ ^{o}$	$D \supset B^{+}$	$D \supset C^{+}$	■	$D \supset E^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$\cdot\ ^{o}$	$E \supset D^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

1)	2)	3)	4)
$A \supset B$	$A \supset E$	$C \supset D$	$D \supset E$
$B \supset C$	$E \supset D$	$D \supset B$	$E \supset A$
$C \supset D$	$D \supset C$	$B \supset E$	$A \supset C$
$D \supset E$	$C \supset B$	$E \supset A$	$C \supset B$
$\therefore A \supset E$	$\therefore A \supset B$	$\therefore C \supset A$	$\therefore D \supset B$

The conclusions were:

$A \supset E$	If there is an oversupply of qualified personnel with few opportunities for advancement, then it is difficult to attract new personnel to the organization.
$A \supset B$	If there is an oversupply of qualified personnel with few opportunities for advancement, then it is a time of high anxiety for the organizational personnel.
$C \supset A$	If better personnel leave the organization, then there is an oversupply of qualified personnel with few opportunities for advancement.
$D \supset B$	If personnel problems are pervasive and difficult to resolve, then it is a time of high anxiety for organizational personnel.

5. Consensus

Step 2 Word-Frequency

In analyzing the propositions on Concensus, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Conflict
challenge
crucial questions
difficult times
loss of coherence

*Concensus
cameraderie
interpersonal
understand

*Decisions
choices
processes

*Develops
address
arise
facing
headed

*Dissension
competition
discord
factionalism
fragmentation

*Distorted
exacerbates
fades
vanishes

*Factions
groups
teachers

*Organizations
community
inter-organizational
school boards
teachers' unions

*Problems
hyperpluralism
implications
questions

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Consensus

5:10; 5:14; 26:23; 26:24; 31:13; 49:3; 50:9

Subsumption Ratio: 1/7

Subsuming Statement:

There are consensus problems in the organization.

B. Conflict Resolution

5:9; 5:13; 26:22; 52:8

Subsumption Ratio: 1/4

Subsuming Statement:

The organization lacks processes for resolving conflicts.

C. Conflict

5:9; 31:14; 50:11

Subsumption Ratio: 1/3

Subsuming Statement:

There is increased conflict in the organization.

D. Dissension

6:8; 26:25; 42:26; 49:2; 50:10; 50:12; 50:13; 50:14; 50:15; 51:24

Subsumption Ratio: 1/10

Subsuming Statement:

There is increased dissension among organization members.

E. Risks

5:14; 44:13

Subsumption Ratio: 1/2

Subsuming Statement:

There may be decisions involving risks.

Step 5 Replace subsuming statements in original data collection.

1. There are consensus problems in the organization.
2. The organization lacks processes for resolving conflicts.
3. There is increased conflict in the organization.
4. There is increased dissension among organization members.
5. There may be decisions involving risks.
6. The organization's climate becomes more formal. (2:24)
7. Controls are added to compensate for conflict. (26:26)

Further study resulted in subsuming statements 3 and 4 into one statement. Using further synonym substitution, it was decided that "dissension" was a form of "conflict". Therefore, the statements could be subsumed to read "There is increased conflict among organization members".

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to indicate acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A There are consensus problems in the organization.
B The organization lacks processes for resolving conflicts.
C There is increased conflict among organizational members.
D There may be decisions involving risks.

E The organization's climate becomes more formal.

F Controls are added to compensate for conflict.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If there are consensus problems in the organization, then the organization lacks processes for resolving conflicts". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.5 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.5

	A	B	C	D	E	F
A	■	$A \supset B^{+}$	$A \supset C^{+}$	$A \supset D^{+}$	$A \supset E^{+}$	$A \supset F^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	☒ o	$B \supset E^{+}$	$B \supset F^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■	$C \supset D^{+}$	$C \supset E^{+}$	$C \supset F^{+}$
D	o	☒ o	$D \supset C^{+}$	■	☒ o	$D \supset F^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$E \supset C$	☒ o	■	$E \supset F^{+}$
F	$F \supset A^{+}$	$F \supset B^{+}$	$F \supset C^{+}$	$F \supset D^{+}$	$F \supset E^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

1)	2)	3)	4)
$A \supset B$	$A \supset E$	$C \supset D$	$D \supset F$
$B \supset C$	$E \supset F$	$D \supset B$	$F \supset B$
$C \supset D$	$F \supset D$	$B \supset E$	$B \supset A$
$D \supset F$	$D \supset C$	$E \supset F$	$A \supset E$
$F \supset E$	$C \supset B$	$F \supset A$	$E \supset C$
$\therefore A \supset E$	$\therefore A \supset B$	$\therefore C \supset A$	$\therefore D \supset C$

The conclusions were:

$A \supset E$ If there are consensus problems in the organization, then the oeganization's climate becomes more formal.

$A \supset B$ If there are consensus problems in the organization, then the organization lacks processes for resolving conflicts.

$C \supset A$ If there is increased conflict among organizational members, then there are consensus problems in the organization.

$D \supset C$ If there may be decisions involving risks, then there is increased conflict among organizational members.

6. Adaptive Responses

Step 2 Word-Frequency

In analyzing the propositions on Adaptive Responses, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Adaptation
adjustments
coping

*Change
action
development
innovation

*Climate
character
structure

*Confronted
faces
poses

*Decreases
cuts
decline
worsen

*Occurs
brings
causes
results

*Organization
company
education
system

*Problems
defects
inability
needs

*Response
decisions

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Adaptive Responses

5:42; 19:5; 22:8; 52:1

Subsumption Ratio: 1/4

Subsuming Statement:

It occurs when the organization's repertoire of adaptive responses is not adequate to bring about the resolution of problems which pose a threat to the organization.

B. Change

2:3; 2:5; 3:7; 9:1; 25:7; 26:15; 26:17; 30:13; 30:17; 41:3

Subsumption Ratio: 1/10

Subsuming Statement:

There is an inability to change to solve the problem.

C. External Agent

2:4; 2:6

Subsumption Ratio: 1/2

Subsuming Statement:

An external change agent is necessary to facilitate organizational change.

D. Adaptation

2:7; 7:4; 26:16; 48:5; 52:4

Subsumption Ratio: 1/5

Subsuming Statement:

Change is at the heart of adaptive responses.

Step 5 Replace subsuming statements in original data collection.

1. It occurs when the organization's repertoire of adaptive responses is not adequate to bring about the resolution of problems which pose a threat to the organization.
2. There is an inability to change to solve the problem.
3. An external change agent is necessary to facilitate organizational change.
4. Change is at the heart of adaptive responses.

Further study resulted in subsuming statements 1 and 2 into one statement. Using further synonym substitution, it was decided that "is not adequate to bring about resolution of the problems" and "inability to solve the problems" were similar. Therefore, the statements could be subsumed to read "It occurs when the organization's repertoire of adaptive responses is not adequate to solve the problem that poses a threat to the organization".

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to indicate acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A	It occurs when the organization's repertoire of adaptive responses is not adequate to solve the problem that poses a threat to the organization.
B	An external change agent is necessary to facilitate organizational change.
C	Change is at the heart of adaptive responses.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it occurs when the organization's repertoire of adaptive responses is not adequate to solve the problem that poses a threat to the organization, then an external change agent is necessary to facilitate organizational change". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.6 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.6

	A	B	C
A	■	$A \supset B^{+}$	$A \supset C^{+}$
B	$B \supset A^{+}$	■	$B \supset C$
C	$C \supset A^{+}$	o	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The conclusions were:

$A \supset B$ If it occurs when the organization's repertoire of adaptive responses is not adequate to solve the problem that poses a threat to the organization, then an external change agent is necessary to facilitate organizational development.

$A \supset C$ It if occurs when the organization's repertoire of adaptive responses is not adequate to solve the problem that poses a threat to the organization, then change is at the heart of adaptive responses.

7. Management

In analyzing the propositions on Management, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Capacity	*Complex	*Decline	*Increases
ability	complicated	atrophy	accelerates
capabilities	difficult	decreasing	
goals		paralysis	
knowledge		pathology	
potential		scarcity	
		stagnating	

*Management	*Occur	*Off-Guard	*Old
administration	cause	unaware	anachronistic
decider	result		out-moded
executive	signal		
leadership			
policymakers			

superintendents

top man

translators

*Organization

education

institution

private sector

systems

*Paranoia

*Policy

handbook

*Problems

breakdown

crisis

defects

failures

handicap

inadequacies

malfunctions

mistakes

uncertainty

Step 3 Isolate the propositions containing key words.

Step 4 Write subsuming statements.

A. Inadequacies

1:6; 2:9; 3:4; 5:21; 5:22; 10:12; 12:3; 12:4; 16:3; 16:10; 21:4; 24:6; 25:12; 30:15; 3:12; 33:15; 38:10; 41:4; 42:14; 51:9; 51:20

Subsumption Ratio: 1/21

Subsuming Statement:

Acts of management in failing to forsee the problems or to prepare adequate strategies are ultimately responsible for decline.

B. Dominance of Administrative Role

2:8; 5:18; 27:10; 30:14; 30:16; 30:17; 31:1; 42:15; 48:7

Subsumption Ratio: 1/9

Subsuming Statement:

The managerial role dominates.

C. Improvement

1:4; 1:5; 5:19; 5:20; 26:18; 26:19; 27:11; 7:6

Subsumption Ratio: 1/8

Subsuming Statement:

Management practices must improve.

D. Paranoia

2:10; 2:11; 2:28; 44:16

Subsumption Ratio: 1/4

Subsuming Statement:

A new and destructive phenomenon emerges-managerial paranoia.

E. Managerial Difficulty

16:1; 16:15

Subsumption Ratio: 1/2

Subsuming Statement:

It (decline) is more difficult to manage than growth.

F. Policy

5:25; 6:4; 41:5

Subsumption Ratio: 1/3

Subsuming Statement:

There are numerous and complex policy questions.

Step 5 Replace subsuming statements in original data collection.

1. Acts of management in failing to forsee the problems or to plan strategies are ultimately responsible for decline.
2. The managerial role dominates.
3. Management practices must improve.
4. A new and destructive phenomenon emerges-managerial paranoia.
5. It is more difficult to manage than growth.
6. There are numerous and complex policy questions.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to indicate acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A Acts of management in failing to forsee the problems or to prepare adequate strategies are ultimately responsible for decline.

B The managerial role dominates.

C Management practice must improve.

D A new and destructive phenomenon emerges-managerial paranoia.

E It is more difficult to manage than growth.

F There are numerous and complex policy questions.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If the acts of management in failing to forsee the problems or to prepare adequate strategies are ultimately responsible for decline, then the managerial role dominates". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.7 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.7

	A	B	C	D	E	F
A	■	$A \supset B^{+}$	$A \supset C^{+}$	$A \supset D^{+}$	$A \supset E^{+}$	$A \supset F^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	$B \supset D^{+}$	$B \supset E^{+}$	$B \supset F^{+}$
C	$C \supset A^{+}$	$\cdot\ ^{o}$	■	$C \supset D^{+}$	$C \supset E^{+}$	$C \supset F^{+}$
D	$D \supset A^{+}$	$D \supset B^{+}$	$D \supset C^{+}$	■	$D \supset E^{+}$	$D \supset F^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$E \supset C^{+}$	$E \supset D^{+}$	■	$E \supset F^{+}$
F	$F \supset A^{+}$	$F \supset B^{+}$	$F \supset C^{+}$	$\cdot\ ^{o}$	$F \supset E^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

1)	2)	3)	4)
$A \supset C$	$A \supset B$	$D \supset E$	$E \supset F$
$C \supset D$	$B \supset D$	$E \supset C$	$F \supset C$
$D \supset E$	$D \supset E$	$C \supset F$	$C \supset D$
$E \supset F$	$E \supset F$	$F \supset B$	$D \supset A$
$F \supset B$	$F \supset C$	$B \supset A$	$A \supset B$
$\therefore A \supset B$	$\therefore A \supset C$	$\therefore D \supset A$	$\therefore E \supset B$

The conclusions were:

$A \supset B$ If acts of management in failing to forsee the problem or to prepare adequate strategies are ultimately responsible for decline, then the managerial role dominates.

$A \supset C$ If the organization's presence in a declining environment is a result of organizational management, then management practice must improve.

$D \supset A$ If a new and destructive phenomenon emerges-managerial paranoia, then the organization's presence in a declining environment is a result of organizational management.

$E \supset B$ If it is more difficult to manage than growth, then the managerial role dominates.

8. Clients

Step 2 Word-Frequency

In analyzing the propositions on Clients, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Clients	*Contingency	*Decrease	*Organization
students	adverse effect	fewer	urban school
		less	
		reduction	
		restrict	

*Performance	*Problems	*Units
achievement	absenteeism	classroom

achievement

contingency

educationally disadvantaged

fewer services

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Contingency

14:1; 30:18; 42:2

Subsumption Ratio: 1/3

Subsuming Statement:

It is a contingency for clients and staff.

B. Client Problems

1:3; 5:17; 17:2; 17:6; 17:7; 17:8; 42:8; 42:9; 42:10

Subsumption Ratio: 1/9

Subsuming Statement:

There may be an increase in client problems.

C. Lost Clients

1:3; 1:7

Subsumption Ratio: 1/2

Subsuming Statement:

The organization may lose clients.

Step 5 Replace subsuming statements in the original data collection.

1. It is a contingency for staff and clients.

2. There may be an increase in client problems.
3. The organization may lose clients.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A	It is a contingency for clients and staff.
B	There may be an increase in client problems.
C	The organization may lose clients.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown on the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it is a contingency for clients and staff, then there may be an increase in client problems". A decision whether to accept (+) or reject (o) this relationship was made by the researcher. Matrix 4.8 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.8

	A	B	C
A	■	$A \supset B^{+}$	$A \supset C^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$
C	$C \supset A^{+}$	$\cdot\ ^{o}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

$$\begin{array}{llcll} & 1) & \quad & & 2) \\ & A \supset B & & & A \supset C \\ & \underline{B \supset C} & & & \underline{C \supset B} \\ \therefore & A \supset C & & \therefore & A \supset B \end{array}$$

The conclusions were:

$A \supset C$ If it is a contingency for staff and clients, then the organization may lose clients.

$A \supset B$ If it is a contingency for staff and clients, then there may be an increase in client problems.

E. Solutions

Step 2 Word-Frequency

In analyzing the propositions on Solutions, the following words were determined to be of greater significance and subsumption value than the other words. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Decline	*Difficulties	*Manager
disintegrating	failures	superintendents
inferior	problems	
redundant		
retrenchment		

*Nursed
boot-strap
pull

*Objectives
option
solution

*Organization
complex system
districts

*Responses
behaviors

*Temporary
short-run

*Units
departments
programs

*Worsen
amplify

Step 3 Isolate the propositions containing key words.

Step 4 Write subsuming statements.

A. Units
7:3; 25:4; 50:4
Subsumption Ratio: 1/3
Subsuming Statement:
The fight for organizational survival necessitates eliminating declining units.

B. Growth-Enthusiasm
23:5; 25:3; 30:2; 30:20; 33:3; 43:5; 50:5
Subsumption Ratio: 1/7
Subsuming Statement:
The enthusiasm for growth is so great that decline is viewed as a temporary slowdown.

C. Managers

5:23; 5:24; 31:7; 33:4; 43:9; 44:7; 44:12

Subsumption Ratio: 1/7

Subsuming Statement:

There exists a belief among managers that the organization can be nursed back to health.

D. Responses

6:5; 15:2; 19:2; 26:3; 26:4; 40:1; 43:1; 44:4

Subsumption Ratio: 1/8

Subsuming Statement:

It becomes more dangerous because normal responses make it worse.

Step 5 Replace subsuming statements in original data collection.

1. The fight for organizational survival necessitates eliminating declining units.
2. The enthusiasm for growth is so great that decline is viewed as a temporary slowdown.
3. There exists a belief among managers that the organization can be nursed back to health.
4. The fight for organizational survival necessitates eliminating declining units.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A The fight for organizational survival necessitates eliminating declining units.

B The enthusiasm for growth is so great that decline is viewed as a temporary slowdown.

C There exists a belief that the organization can be nursed back to health.

D It becomes more dangerous because normal responses make it worse.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If the fight for organizational survival necessitates eliminating declining units, then the enthusiasm for growth is so great that decline is viewed as a temporary slowdown". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 4.9 indicated the researcher's decisions and all hypothetical relationships.

Matrix 4.9

	A	B	C	D
A	■	$A \supset B^+$	$A \supset C^+$	$A \supset D^+$
B	$B \supset A^+$	■	$B \supset C^+$	$B \supset D^+$
C	$C \supset A^+$	$C \supset B^+$	■	$C \supset D^+$
D	o	$D \supset B^+$	$D \supset C^+$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

$$\begin{array}{lll} 1) & 2) & 3) \\ A \supset B & B \supset C & B \supset A \\ B \supset D & C \supset D & A \supset C \\ \underline{D \supset C} & \underline{D \supset A} & \underline{C \supset D} \\ \therefore A \supset C & \therefore B \supset A & \therefore B \supset D \end{array}$$

The conclusions were:

$A \supset C$ If the fight for organizational survival necessitate eliminating declining units, then there exists a belief among managers that the organization can be nursed back to health.

$B \supset A$ If the enthusiasm for growth is so great that decline is viewed as a temporary slowdown, then the fight for organizational survival necessitates eliminating declining units.

$B \supset D$ If the enthusiasm for growth is so great that decline is viewed as a temporary slowdown, then it becomes more dangerous because normal responses make it worse.

II. DEATH

A. PRECEDENTS

Step 2 Word-Frequency

In analyzing the propositions describing Precedents, the following words were determined to be of greater significance and subsumption value than the others. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Death
dying
fatal

*Pathology
blow
illness
imbalances

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Effect
46:5; 47:10; 51:29
Subsumption Ratio: 1/3
Subsuming Statement:
Its ultimate effect on the organization is death.

B. Pathologies
23:6; 26:35
Subsumption Ratio: 1/2
Subsuming Statement:
Pathologies exist which cause the organization's death.

Step 5 Replace subsuming statements in the original data collection.

1. Its ultimate effect on the organization is death.
2. Pathologies exist which cause the organization's death.

Step 6 Establish a hypothetical (if, then) relationship with each of the other statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A	Its ultimate effect on the organization is death.
B	Pathologies exist which cause the organization's death.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown in the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If its ultimate effect on the organization is death, then pathologies exist which cause the organization's death". A decision whether to accept (+) or reject (o) these relationships was made by the researcher. Matrix 5.1 indicates the researcher's decisions and all hypothetical relationships.

Matrix 5.1

	A	B
A	■	$A \supset B^{+}$
B	$B \supset A^{+}$	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The conclusion was:

$A \supset B$ If its ultimate effect on the organization is death, then pathologies exist which cause the organization's death.

B. CAUSES

Step 2 Word-Frequency

In analyzing the propositions describing Causes, the following words were determined to be of greater significance and subsumption value than the other words. Those words identified with an asterisk had greater potential for synonym substitution and definition reduction than the other words in that specific category. Simply, these were the power words.

*Abandoned
dissolved
no longer

*Circumstances
difficulties
event
results

*Death
cease
loss
stops
termination

*Diminution
starvation

*Exist
accomplished

*Membership
component

*Occur
generated

*Organization
organism
private sector
public sector

*Purpose
results

*Bounded
spatial

Step 3 Isolate the propositions containing the key words.

Step 4 Write subsuming statements.

A. Circumstances

2:37; 2:38; 9:2; 9:3; 9:4; 9:5; 38:23; 51:30; 51:31

Subsumption Ratio: 1/9

Subsuming Statement:

It refers to the circumstances when an organization did once exist in a tangibly-bounded sense and does and does so no more.

B. Identity

2:39; 38:26

Subsumption Ratio: 1/2

Subsuming Statement:

It occurs when unique identity is lost.

C. Membership

38:22; 28:25

Subsumption Ratio: 1/2

Subsuming Statement:

It occurs when membership falls below a critical number.

D. Purposes

30:1; 38:24; 51:16

Subsumption Ratio: 1/3

Subsuming Statement:

It occurs when the purposes for which the organization were founded are accomplished or abandoned.

E. Resource Diminution

17:13; 17:14

Subsumption Ratio: 1/2

Subsuming Statement:

It occurs because of diminution of resources.

Step 5 Replace subsuming statements in original data collection.

1. It refers to the circumstances when an organization did once exist in a tangibly-bounded sense and does so no more.
2. It occurs because of merger where unique identity is lost.
3. It occurs when membership falls below a critical number.
4. It occurs when the purposes for which the organization were founded are accomplished or abandoned.
5. It occurs because of diminution of resources.
6. The events of death occur because of the strategies of initiation. (9:1)

Step 6 Establish a hypothetical (if, then) relationship with each of the statements in the collection.

Step 7 Establish a relationship between these paired statements, i.e., accept/reject.

Step 8 Assign letter symbols to the final list of statements.

Step 9 Place the resultant statements in a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

Beginning with Step 8, for clarification purposes, the final list of statements as identified by letter was:

A It refers to the circumstances when an organization did once exist in a tangibly-bounded sense and does so no longer.

B It occurs because of merger when unique identity is lost.

C It occurs when membership falls below a critical number.

D It occurs when the purposes for which the organization were founded are accomplished or abandoned.

E It occurs because of diminution of resources.

F The events of death occur because of the strategies of initiation.

Steps 6, 7 and 9 were completed by using a matrix. In this way every relationship was shown on the matrix. An example of placing statements in a hypothetical relationship is: If A, then B or "If it refers to the circumstances when an organization did once exist in a tangibly-bounded sense and does so no longer, then it occurs because of merger when unique identity is lost". A decision whether to accept (+) or reject (o) the relationships was made by the researcher. Matrix 5.2 indicated the researcher's decisions and the hypothetical relationships.

Matrix 5.2

	A	B	C	D	E	F
A	■	$A \supset B$	☒ o	$A \supset D^{+}$	. o	. o
B	$B \supset A^{+}$	■	☒ o	$B \supset D$	☒ o	$B \supset F^{+}$
C	☒ o	☒ o	■	☒ o	☒ o	$C \supset F^{+}$
D	$D \supset A^{+}$	$D \supset B^{+}$	☒ o	■	☒ o	$D \supset F^{+}$
E	$E \supset A^{+}$	☒ o	☒ o	☒ o	■	☒ o
F	$F \supset A^{+}$	. o	. o	. o	☒ o	■

Step 10 Create a valid argument which uses or implies all the relationships in the matrix.

The valid hypothetical syllogisms (chain arguments) were:

1)

$A \supset B$

$\underline{B \supset D}$

$\therefore A \supset D$

The conclusion was:

$A \supset D$ If it refers to the circumstances when an organization did once exist and does so no longer, then it occurs when the purposes for which the organization were founded are accomplished or abandoned.

CONCLUSIONS

Step 11 Construct a matrix of conclusions from each of the sets and subsets in the total collection. Relationships are determined from which additional conclusions can be drawn. In this way a few conclusions can represent a larger number of statements and essential ideas can be isolated.

Introduction

In creating a matrix of conclusions based on conclusions from the total collection, several steps will be followed. Initially, conclusions were deduced for each set of arguments developed in Step 10 of Semiotic Analysis. These conclusions will now be placed again in a matrix and further conclusions developed. The first step will entail developing conclusion(s) for each of the sets and then a final matrix will be developed using the conclusions from each set.

These conclusions will be drawn (inferred) using the Rules of Inference, most notably Hypothetical Syllogism and Modus Ponens. Since the conclusions of all arguments of all sets are reversible, the final conclusion must then be internally consistent and the process will have determined which statements are most inclusive.

For each set of propositions as identified in the outline, a matrix of conclusions will be developed using the steps detailed in the Analytic, specifically Steps 6-10. The statements will be identified by letter, a matrix of relationships created and from this matrix arguments will be developed and conclusions drawn.

I. DECLINE

A. Precedents

The conclusions in this set were:

1) $\therefore B \supset A$ 2) $\therefore F \supset A$

Using these conclusions a hypothetical syllogism (chain argument) was developed. It was:

$$\begin{array}{ll} & B \supset A \\ & \underline{A \supset F} \\ \therefore & B \supset F \end{array}$$

The conclusion was:

$B \supset F$ If decline is preceded by a period of growth, then the organization's age is the most accurate predictor of organizational failure.

B. Internal Factors

1. Description

The conclusions in this sub-set were:

1) $\therefore A \supset F$ 2) $\therefore A \supset B$ 3) $\therefore C \supset F$ 4) $\therefore C \supset E$ 5) $\therefore D \supset G$
6) $\therefore D \supset E$

Using these conclusions a hypothetical syllogism (chain argument) was developed. It was:

$$\begin{array}{rl} & B \supset A \\ & A \supset F \\ & F \supset C \\ & C \supset E \\ & E \supset D \\ & \underline{D \supset G} \\ \therefore & B \supset G \end{array}$$

The conclusion was:

$B \supset G$ If there are objective signs, then decline is seen as a period of austerity.

2. Charter

The conclusion in this sub-set was:

$A \supset B$ If there is decline in the organization, then it occurs because of defects in the charter.

3. Physical Plant

The conclusion in this sub-set was:

$A \supset B$ If the most visible problem is in the state of the physical plant, then maintenance is deferred.

4. Information

The conclusion in this sub-set was:

$A \supset B$ If it occurs because of pathologies in information flows, then management decisions are based on pathological information.

5. Technology

The conclusion in this sub-set was:

$A \supset B$ If it results from a loss of technological superiority, then it is caused by growing technological obsolescence which the organization meets ineptly.

6. Matter-Energy

The conclusion in this sub-set was:

$A \supset C$ It if occurs because of abnormalities in internal, matter-energy processes, then the organization inflicts it on itself.

7. Downgrading-Downsizing

The conclusion in this sub-set was:

$A \supset B$ If there is downgrading, then there is downsizing.

8. Pathology

The conclusions in this sub-set were:

1) $\therefore A \supset E$ 2) $\therefore A \supset D$ 3) $\therefore B \supset E$ 4) $\therefore B \supset D$ 5) $\therefore C \supset E$
6) $\therefore C \supset D$

Using these conclusions hypothetical syllogisms (chain arguments) were developed.

$$\begin{array}{llllll}
 & 1) & & 2) & & 3) \\
 & E \supset A & & E \supset B & & E \supset C \\
 & \underline{A \supset D} & & \underline{B \supset D} & & \underline{C \supset D} \\
\therefore & E \supset D & \therefore & E \supset D & \therefore & E \supset D
\end{array}$$

The conclusion was:

$E \supset D$ If there is erosion of the health of the organization, then every pathology becomes traumatic.

Using the procedures as outlined in Steps 6, 7, 8 and 9 of Semiotic Analysis, the following is a list of statements (as drawn from the conclusions from the set-Internal Factors) and identified by letter.

A There are objective signs.

B Decline is seen as a period of austerity.

C There is decline in the organization.

D It occurs because of defects in the charter.

E The most visible problem is in the state of the physical plant.

F Maintenance is deferred.

G It occurs because of pathologies in information flows.

H Management decisions are based on pathological information.

I It results from a loss of technological superiority.

J It is caused by growing technological obsolescence which the organization meets ineptly.

K It occurs because of abnormalities in internal, matter-energy processes.

L The organization inflicts it on itself.

M There is downgrading.

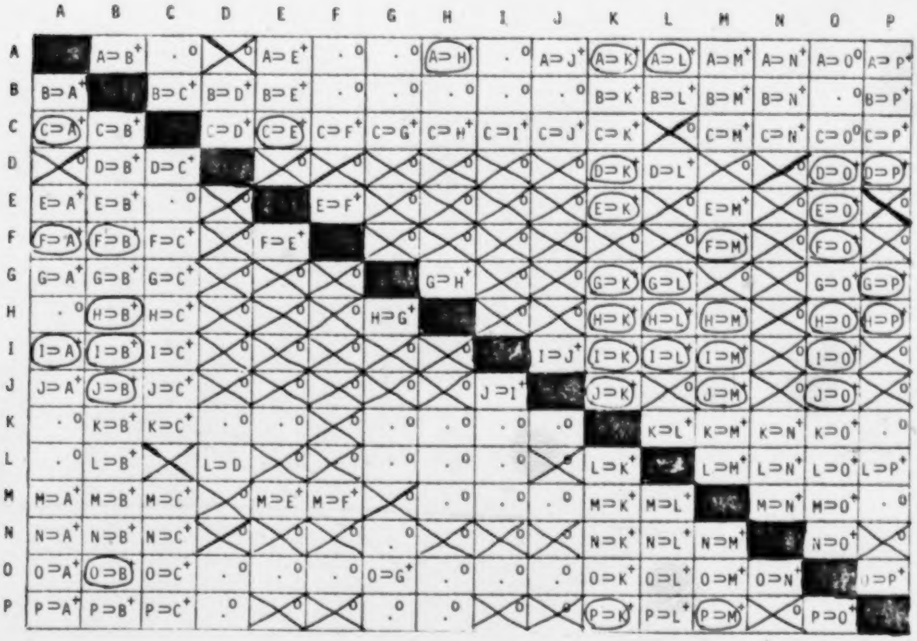
N There is downsizing.

O There is erosion of the health of the organization.

P Every pathology becomes traumatic.

Matrix 6.1 identified all statements and indicated all relationships.

Matrix 6.1



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	■	$A \supset B^{+}$	$\cdot^{o}$	✗^{o}	$A \supset E^{+}$	$\cdot^{o}$	$\cdot^{o}$	$A \supset H^{+}$	$\cdot^{o}$	$A \supset J^{+}$	$A \supset K^{+}$	$A \supset L^{+}$	$A \supset M^{+}$	$A \supset N^{+}$	$A \supset O^{o}$	$A \supset P^{+}$
B	$B \supset A^{+}$	■	$B \supset C^{+}$	$B \supset D^{+}$	$B \supset E^{+}$	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	$B \supset K^{+}$	$B \supset L^{+}$	$B \supset M^{+}$	$B \supset N^{+}$	$\cdot^{o}$	$B \supset P^{+}$
C	$C \supset A^{+}$	$C \supset B^{+}$	■	$C \supset D^{+}$	$C \supset E^{+}$	$C \supset F^{+}$	$C \supset G^{+}$	$C \supset H^{+}$	$C \supset I^{+}$	$C \supset J^{+}$	$C \supset K^{+}$	✗^{o}	$C \supset M^{+}$	$C \supset N^{+}$	$C \supset O^{o}$	$C \supset P^{+}$
D	✗^{o}	$D \supset B^{+}$	$D \supset C^{+}$	■	✗^{o}	✗^{o}	✗^{o}	✗^{o}	✗^{o}	✗^{o}	$D \supset K^{+}$	$D \supset L^{+}$	✗^{o}	✗^{o}	$D \supset O^{+}$	$D \supset P^{+}$
E	$E \supset A^{+}$	$E \supset B^{+}$	$\cdot^{o}$	✗^{o}	■	$E \supset F^{+}$	✗^{o}	✗^{o}	✗^{o}	✗^{o}	$E \supset K^{+}$	✗^{o}	$E \supset M^{+}$	✗^{o}	$E \supset O^{+}$	✗^{o}
F	$F \supset A^{+}$	$F \supset B^{+}$	$F \supset C^{+}$	✗^{o}	$F \supset E^{+}$	■	✗^{o}	✗^{o}	✗^{o}	✗^{o}	✗^{o}	✗^{o}	$F \supset M^{+}$	✗^{o}	$F \supset O^{+}$	✗^{o}
G	$G \supset A^{+}$	$G \supset B^{+}$	$G \supset C^{+}$	✗^{o}	✗^{o}	✗^{o}	■	$G \supset H^{+}$	✗^{o}	✗^{o}	$G \supset K^{+}$	$G \supset L^{+}$	✗^{o}	✗^{o}	$G \supset O^{+}$	$G \supset P^{+}$
H	$\cdot^{o}$	$H \supset B^{+}$	$H \supset C^{+}$	✗^{o}	✗^{o}	✗^{o}	$H \supset G^{+}$	■	✗^{o}	✗^{o}	$H \supset K^{+}$	$H \supset L^{+}$	$H \supset M^{+}$	✗^{o}	$H \supset O^{+}$	$H \supset P^{+}$
I	$I \supset A^{+}$	$I \supset B^{+}$	$I \supset C^{+}$	✗^{o}	✗^{o}	✗^{o}	✗^{o}	✗^{o}	■	$I \supset J^{+}$	$I \supset K^{+}$	$I \supset L^{+}$	$I \supset M^{+}$	✗^{o}	$I \supset O^{+}$	✗^{o}
J	$J \supset A^{+}$	$J \supset B^{+}$	$J \supset C^{+}$	✗^{o}	✗^{o}	✗^{o}	✗^{o}	✗^{o}	$J \supset I^{+}$	■	$J \supset K^{+}$	✗^{o}	$J \supset M^{+}$	✗^{o}	$J \supset O^{+}$	✗^{o}
K	$\cdot^{o}$	$K \supset B^{+}$	$K \supset C^{+}$	$\cdot^{o}$	$\cdot^{o}$	✗^{o}	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	■	$K \supset L^{+}$	$K \supset M^{+}$	$K \supset N^{+}$	$K \supset O^{+}$	$\cdot^{o}$
L	$\cdot^{o}$	$L \supset B^{+}$	✗	$L \supset D$	✗^{o}	✗^{o}	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	✗	$L \supset K^{+}$	■	$L \supset M^{+}$	$L \supset N^{+}$	$L \supset O^{+}$	$L \supset P^{+}$
M	$M \supset A^{+}$	$M \supset B^{+}$	$M \supset C^{+}$	✗^{o}	$M \supset E^{+}$	$M \supset F^{+}$	✗^{o}	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	$M \supset K^{+}$	$M \supset L^{+}$	■	$M \supset N^{+}$	$M \supset O^{+}$	$\cdot^{o}$
N	$N \supset A^{+}$	$N \supset B^{+}$	$N \supset C^{+}$	✗^{o}	✗^{o}	✗^{o}	$\cdot^{o}$	✗^{o}	✗^{o}	✗^{o}	$N \supset K^{+}$	$N \supset L^{+}$	$N \supset M^{+}$	■	$N \supset O^{+}$	✗^{o}
O	$O \supset A^{+}$	$O \supset B^{+}$	$O \supset C^{+}$	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	$O \supset G^{+}$	$\cdot^{o}$	$\cdot^{o}$	$\cdot^{o}$	$O \supset K^{+}$	$O \supset L^{+}$	$O \supset M^{+}$	$O \supset N^{+}$	■	$O \supset P^{+}$
P	$P \supset A^{+}$	$P \supset B^{+}$	$P \supset C^{+}$	$\cdot^{o}$	✗^{o}	✗^{o}	$\cdot^{o}$	$\cdot^{o}$	✗^{o}	✗	$P \supset K^{+}$	$P \supset L^{+}$	$P \supset M^{+}$	✗^{o}	$P \supset O^{+}$	■

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$A \supset J$

$J \supset I$

$I \supset C$

$C \supset H$

$H \supset G$

$G \supset O$

$O \supset P$

$P \supset L$

$L \supset D$

$D \supset B$

$B \supset E$

$E \supset F$

$F \supset M$

$M \supset K$

$\underline{K \supset N}$

$\therefore A \supset N$

The conclusion was:

$A \supset N$ If it is seen as a period of austerity, then there is erosion of the health of the organization.

C. External Factors

1. Environment

The conclusion in this sub-set was:

$F \supset G$ If organizational atrophy is caused when the organization is unresponsive to environmental change, then there needs to be an increased emphasis on planning.

2. Political Effects

The conclusion in this sub-set was:

$A \supset B$ If there is organizational vulnerability based on a lack of political support, then the organization will seek political support to insure its survival.

3. Public Effects

The conclusions in this sub-set were:

1) $\therefore A \supset C$ 2) $\therefore A \supset B$

Using these conclusions a hypothetical syllogism (chain argument) was developed.

$$\begin{array}{rl} & C \supset A \\ & \underline{A \supset B} \\ \therefore & C \supset B \end{array}$$

The conclusion was:

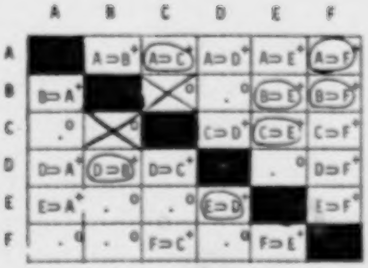
$C \supset B$ If criticism of the organization is a symptom that the public is unable to understand the problems of the organization, then it is accompanied by a decline in public confidence in the organization.

Using the procedures as outlined in Steps 6, 7, 8 and 9 of Semiotic Analysis, the following is a list of statements (as drawn from the conclusions from the set-External Factors) and identified by letter.

A	Organizational atrophy is caused when the organization is unresponsive to environmental change.
B	There needs to be increased emphasis on planning.
C	There is organizational vulnerability based on a lack of political support.
D	The organization will seek political support to insure its survival.
E	Criticism of the organization is a symptom that the public is unable to understand the problems of the organization.
F	It is accompanied by a decline in public confidence in the organization.

Matrix 6.2 identified all statements and indicated all relationships.

Matrix 6.2



	A	B	C	D	E	F
A	■	$A \supset B^{+}$	$A \supset C^{+}$	$A \supset D^{+}$	$A \supset E^{+}$	$A \supset F^{+}$
B	$B \supset A^{+}$	■	╳ ^{0}	. ^{0}	$B \supset E^{+}$	$B \supset F^{+}$
C	. ^{0}	╳ ^{0}	■	$C \supset D^{+}$	$C \supset E^{+}$	$C \supset F^{+}$
D	$D \supset A^{+}$	$D \supset B^{+}$	$D \supset C^{+}$	■	. ^{0}	$D \supset F^{+}$
E	$E \supset A^{+}$	. ^{0}	. ^{0}	$E \supset D^{+}$	■	$E \supset F^{+}$
F	. ^{0}	. ^{0}	$F \supset C^{+}$	. ^{0}	$F \supset E^{+}$	■

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$A \supset E$

$E \supset F$

$F \supset C$

$\underline{C \supset D}$

$\therefore A \supset D$

The conclusion was:

$A \supset D$ If organizational atrophy is caused when the organization is unresponsive to environmental change, then the organization will seek political support to insure its survival.

D. Personnel Problems

1. Scapegoats

The conclusion was:

$A \supset B$ If there is a search for scapegoats, then the collective sense of responsibility is threatened.

2. Innovation

The conclusions in this sub-set were:

1) $\therefore A \supset D$ 2) $\therefore A \supset B$ 3) $\therefore C \supset D$

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$$\begin{array}{rl} & B \supset A \\ & A \supset D \\ & \underline{D \supset C} \\ \therefore & B \supset C \end{array}$$

The conclusion was:

$B \supset C$ If the organization is innovation-resistant, then there is little enthusiasm for innovation.

3. Staff Morale

The conclusions in this sub-set were:

1) $\therefore A \supset C$ 2) $\therefore A \supset B$ 3) $\therefore E \supset A$

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$$\begin{array}{rl} & C \supset A \\ & \underline{A \supset B} \\ \therefore & C \supset B \end{array}$$

The conclusions were:

1) $\therefore C \supset B$ 2) $\therefore E \supset A$

Inferring from these conclusions using Modus Ponens, the result was:

$$\begin{array}{ll} (C \supset B) \supset (E \supset A) & p \supset q \\ \quad (C \supset B) & \quad p \\ \therefore (E \supset A) & \therefore q \end{array}$$

The final conclusion was:

$E \supset A$ If there is a decrease in the morale of organizational staff, then negative, counter-productive personnel attitudes are intensified.

4. Advancement

The conclusions were:

1) $\therefore A \supset E$ 2) $\therefore A \supset B$ 3) $\therefore C \supset A$ 4) $\therefore D \supset B$

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$E \supset A$

$A \supset B$

$\underline{B \supset D}$

$\therefore E \supset D$

The conclusions were:

1) $\therefore A \supset C$ 2) $\therefore E \supset D$

Inferring from these conclusions using Modus Ponens, the result was:

$(A \supset C) \supset (E \supset D)$ $p \supset q$

$(A \supset C)$ p

$\therefore (E \supset D)$ $\therefore q$

The final conclusion was:

$E \supset D$ If personnel problems are pervasive and difficult to resolve, then it is difficult to attract new personnel to the organization.

5. Consensus

The conclusions in this sub-set were:

1) $\therefore A \supset E$ 2) $\therefore A \supset B$ 3) $\therefore C \supset A$ 4) $\therefore D \supset C$

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$E \supset A$

$A \supset C$

$\underline{C \supset D}$

$\therefore D \supset E$

The conclusions were:

1) $\therefore A \supset B$ 2) $\therefore D \supset E$

Inferring from these conclusions using Modus Ponens, the result was:

$(A \supset B) \supset (D \supset E)$ $p \supset q$

$(A \supset B)$ p

$\therefore (D \supset E)$ $\therefore q$

The conclusion was:

$D \supset E$ If there are decisions involving risks, then the organization's climate becomes more formal.

6. Adaptive Responses

The conclusions in this sub-set were:

1) $\therefore A \supset B$ 2) $\therefore A \supset C$

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$B \supset A$

$\underline{A \supset C}$

$\therefore B \supset C$

The conclusion was:

$B \supset C$ If an external change agent is necessary to facilitate organizational development, then change is at the heart of adaptive responses.

7. Management

The conclusions were:

1) $\therefore A \supset B$ 2) $\therefore A \supset C$ 3) $\therefore D \supset A$ 4) $\therefore E \supset B$

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$$\begin{array}{ll} & E \supset B \\ & B \supset A \\ & \underline{A \supset D} \\ \therefore & E \supset D \end{array}$$

The conclusions were:

1) $\therefore E \supset D$ 2) $\therefore A \supset C$

Inferring from these conclusions using Modus Ponens, the result was:

$$\begin{array}{ll} (E \supset D) \supset (A \supset C) & p \supset q \\ \quad (E \supset D) & \quad p \\ \therefore (A \supset C) & \therefore q \end{array}$$

The conclusion was:

$A \supset C$ If acts of management in failing to forsee the problems or to prepare adequate strategies are ultimately responsible for decline, then management practice must improve.

8. Clients

The conclusions for this sub-set were:

1) $\therefore A \supset C$ 2) $\therefore A \supset B$

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$$\begin{array}{ll} & B \supset A \\ & \underline{A \supset C} \\ \therefore & B \supset C \end{array}$$

The conclusion was:

$B \supset C$ If there is an increase in client problems, then the organization may lose clients.

Using the procedures as outlined in Steps 6, 7 8 and 9 of Semiotic Analysis, the following is a list of statements (as drawn from the set-Personnel Problems) and identified by letter.

A	There is a search for scapegoats.
B	The collective sense of responsibility is threatened.
C	The organization is innovation-resistant.
D	There is little enthusiasm for innovation.
E	Negative, counter-productive personnel attitudes are intensified.
F	There is a decrease in morale of organizational staff.
G	Personnel problems are pervasive and difficult to resolve.
H	It is difficult to attract new personnel to the organization.
I	There may be decisions involving risks.
J	The organization's climate becomes more formal.
K	An external change agent is necessary to facilitate organizational development.
L	Change is at the heart of adaptive responses.
M	Acts of management, in failing to forsee the problem or prepare adequate strategies, are ultimately responsible for decline.
N	Management practice must improve.
O	There may be an increase in client problems.
P	The organization may lose clients.

Matrix 6.3 identified all statements and indicated all relationships.

Matrix 6.3

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	■	$A \supset B^{+}$	☒ o	$A \supset D^{+}$	$A \supset E^{+}$	$A \supset F^{+}$	$A \supset G^{+}$	☒ o	$A \supset I^{+}$	$A \supset J^{+}$	$A \supset K^{+}$	☒ o	$A \supset M^{+}$	$A \supset N^{+}$	☒ o	☒ o
B	$B \supset A^{+}$	■	o	$B \supset D^{+}$	$B \supset E^{+}$	$B \supset F^{+}$	$B \supset G^{+}$	☒ o	$B \supset I^{+}$	$B \supset J^{+}$	$B \supset K^{+}$	☒ o	$B \supset M^{+}$	$B \supset N^{+}$	☒	☒ o
C	☒ o	☒ o	■	. o	$C \supset E^{+}$	$C \supset F^{+}$	$C \supset G^{+}$	$C \supset H^{+}$	$C \supset I^{+}$	$C \supset J^{+}$	$C \supset K^{+}$	$C \supset L^{+}$	$C \supset M^{+}$	$C \supset N^{+}$	☒ o	$C \supset P^{+}$
D	. o	. o	$D \supset C^{+}$	■	$D \supset E^{+}$	$D \supset F^{+}$	$D \supset G^{+}$	. o	$D \supset I^{+}$	$D \supset J^{+}$	$D \supset K^{+}$	$D \supset L^{+}$	$D \supset M^{+}$	$D \supset N^{+}$	☒ o	$D \supset P^{+}$
E	. o	$E \supset B^{+}$	$E \supset C^{+}$	$E \supset D^{+}$	■	$E \supset F^{+}$	$E \supset G^{+}$	$E \supset H^{+}$	. o	$E \supset J^{+}$	$E \supset K^{+}$	$E \supset L^{+}$	$E \supset M^{+}$	$E \supset N^{+}$	☒ o	$E \supset P^{+}$
F	. o	$F \supset B^{+}$	$F \supset C^{+}$	$F \supset D^{+}$	$F \supset E^{+}$	■	$F \supset G^{+}$	$F \supset H^{+}$	$F \supset I^{+}$	$F \supset J^{+}$	$F \supset K^{+}$	$F \supset L^{+}$	$F \supset M^{+}$	$F \supset N^{+}$	$F \supset O^{+}$	$F \supset P^{+}$
G	$G \supset A^{+}$	$G \supset B^{+}$	$G \supset C^{+}$	$G \supset D^{+}$	$G \supset E^{+}$	$G \supset F^{+}$	■	$G \supset H^{+}$	$G \supset I^{+}$	$G \supset J^{+}$	$G \supset K^{+}$	$G \supset L^{+}$	$G \supset M^{+}$	$G \supset N^{+}$	☒ o	$G \supset P^{+}$
H	☒ o	☒ o	. o	$H \supset D^{+}$	$H \supset E^{+}$	$H \supset F^{+}$	$H \supset G^{+}$	■	. o	$H \supset J^{+}$	$H \supset K^{+}$	$H \supset L^{+}$	$H \supset M^{+}$	$H \supset N^{+}$	☒ o	$H \supset P^{+}$
I	$I \supset A^{+}$	$I \supset B^{+}$	. o	$I \supset D^{+}$	$I \supset E^{+}$	$I \supset F^{+}$	. o	$I \supset H^{+}$	■	$I \supset J^{+}$	$I \supset K^{+}$	$I \supset L^{+}$	$I \supset M^{+}$	$I \supset N^{+}$	☒ o	$I \supset P^{+}$
J	$J \supset A^{+}$	$J \supset B^{+}$	$J \supset C^{+}$	$J \supset D^{+}$	$J \supset E^{+}$	$J \supset F^{+}$	$J \supset G^{+}$	$J \supset H^{+}$	$J \supset I^{+}$	■	$J \supset K^{+}$	$J \supset L^{+}$	$J \supset M^{+}$	$J \supset N^{+}$	☒ o	$J \supset P^{+}$
K	. o	$K \supset B^{+}$	$K \supset C^{+}$	$K \supset D^{+}$	. +	$K \supset F^{+}$	$K \supset G^{+}$	. o	$K \supset I^{+}$	. o	■	$K \supset L^{+}$	$K \supset M^{+}$	$K \supset N^{+}$	☒ o	$K \supset P^{+}$
L	☒ o	☒ o	o	. o	. o	. o	. o	. o	$L \supset I^{+}$	. o	$L \supset K^{+}$	■	$L \supset M^{+}$	$L \supset N^{+}$	. o	. o
M	$M \supset A^{+}$	$M \supset B^{+}$	$M \supset C^{+}$	. o	$M \supset E^{+}$	$M \supset F^{+}$	$M \supset G^{+}$	. o	. o	$M \supset J^{+}$	$M \supset K^{+}$	$M \supset L^{+}$	■	$M \supset N^{+}$	. o	$M \supset P^{+}$
N	. o	$N \supset B^{+}$	. o	$N \supset D^{+}$	$N \supset E^{+}$	$N \supset F^{+}$	$N \supset G^{+}$	$N \supset H^{+}$	$N \supset I^{+}$	$N \supset J^{+}$	$N \supset K^{+}$	$N \supset L^{+}$	$N \supset M^{+}$	■	☒ o	. o
O	☒ o	☒ o	☒ o	☒ o	☒ o	$O \supset F^{+}$	☒ o	☒ o	☒ o	. o	☒ o	$O \supset L^{+}$	$O \supset M^{+}$	☒ o	■	$O \supset P^{+}$
P	☒ o	☒ o	. o	. o	$P \supset E^{+}$	$P \supset F^{+}$	. o	$P \supset H^{+}$	. o	. o	. o	$P \supset L^{+}$	$P \supset M^{+}$	$P \supset N^{+}$	$P \supset O^{+}$	■

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$M \supset P$

$P \supset O$

$O \supset F$

$F \supset B$

$B \supset A$

$A \supset J$

$J \supset C$

$C \supset E$

$E \supset H$

$H \supset N$

$N \supset I$

$I \supset L$

$L \supset K$

$K \supset D$

$\underline{D \supset G}$

$\therefore M \supset G$

The conclusion was:

$M \supset G$ If acts of management in failing to forsee the problems or to prepare adequate strategies are ultimately responsible for decline, then there are pervasive and difficult to resolve personnel problems.

E. Solutions

The conclusions in this sub-set were:

1) $\therefore A \supset C$ 2) $\therefore B \supset A$ 3) $\therefore B \supset D$

Using these conclusions a hypothetical syllogism (chain argument) was developed.

$C \supset A$

$A \supset B$

$\underline{B \supset D}$

$\therefore C \supset D$

The conclusion was:

$C \supset D$ If there exists a belief among managers that the organization can be nursed back to health, then it becomes more dangerous because normal responses make it worse.

Final Conclusions-Decline

Continuing the Semiotic Analytic, it could be deduced (logically) that since all conclusions of all arguments developed from the sets and sub-sets were reversible, then a final matrix must be internally consistent and the process used to determine which statement(s) were the most inclusive so as to contain all other statements. Thus, this final matrix would contain all statements. Conclusions and the resultant conclusions developed from this matrix of conclusions would contain (logically) all arguments.

Applying Steps 6, 7, 8 and 9 of the Semiotic Analytic, the list of statements (conclusions) as identified by letter was:

A	It is preceded by a period of growth.
B	The organization's age may be the most accurate predictor of organizational failure.
C	It is seen as a period of adjustment.
D	There is erosion of the health of the organization.
E	Organizational atrophy is caused when the organization is unresponsive to environmental change.
F	The organization will seek political support to insure survival.
G	Acts of management in failing to forsee the problems of to prepare adequate strategies are ultimately responsible for decline.
H	There are pervasive and difficult to resolve personnel problems.
I	There exists a belief among managers that the organization can be nursed back to health.

J It becomes more dangerous because normal responses make it worse.

Matrix 6.4 identified all statements and indicated all relationships.

Matrix 6.4

	A	B	C	D	E	F	G	H	I	J
A	■	$A\supset B^+$	$A\supset C^+$	^{0}	$A\supset E^+$	^{0}	$A\supset G^+$	^{0}	^{0}	$A\supset J^+$
B	$\cdot\ ^0$	■	$\cdot\ ^0$	$\cdot\ ^0$	$B\supset E^+$	^{0}	$\cdot\ ^0$	$\cdot\ ^0$	$B\supset I^+$	$B\supset J^+$
C	$\cdot\ ^0$	$C\supset B^+$	■	$C\supset D^+$	$C\supset E^+$	$C\supset F^+$	$C\supset G^+$	$C\supset H^+$	$C\supset I^+$	$C\supset J^+$
D	^{0}	$D\supset B^+$	$D\supset C^+$	■	$D\supset E^+$	$D\supset F^+$	$D\supset G^+$	$D\supset H^+$	$D\supset I^+$	$D\supset J^+$
E	$\cdot\ ^0$	$E\supset B^+$	$E\supset C^+$	$E\supset D^+$	■	$E\supset F^+$	$E\supset G^+$	$E\supset H^+$	$\cdot\ ^0$	$E\supset J^+$
F	^{0}	^{0}	$F\supset C^+$	$\cdot\ ^0$	^{0}	■	$F\supset G^+$	$\cdot\ ^0$	$F\supset I^+$	$F\supset J^+$
G	$\cdot\ ^0$	$G\supset B^+$	$G\supset C^+$	$G\supset D^+$	$\cdot\ ^0$	^{0}	■	$G\supset H^+$	$\cdot\ ^0$	$G\supset J^+$
H	^{0}	$H\supset B^+$	$H\supset C^+$	$H\supset D^+$	$\cdot\ ^0$	$H\supset F^+$	$H\supset G^+$	■	$.^0$	$H\supset J^+$
I	^{0}	$I\supset B^+$	$I\supset C^+$	$\cdot\ ^0$	$I\supset E^+$	$I\supset F^+$	$I\supset G^+$	$I\supset H^+$	■	$I\supset J^+$
J	$.^0$	$J\supset B^+$	$J\supset C^+$	$J\supset D^+$	$J\supset E^+$	$.^0$	$J\supset G^+$	$J\supset H^+$	$J\supset I^+$	■

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$G\supset C$

$C\supset F$

$F\supset I$

$I\supset B$

$B\supset E$

$E\supset D$

$D\supset H$

$\underline{H\supset J}$

$\therefore\ G\supset J$

The conclusion was:

$G\supset J$ If acts of management in failing to forsee the problems or to prepare adequate strategies are ultimately responsible for decline, then it becomes more dangerous because normal responses make it worse.

II. DEATH

A. Precedents

The conclusion in this set was:

$A \supset B$ If its (decline) ultimate effect on the organization is death, then pathologies exist which may cause the organization's death.

B. Causes

The conclusion in this set was:

$A \supset D$ If it refers to the circumstances when an organization did once exist in a tangibly-bounded sense and does so no longer, then it occurs when the purposes for which the organization were founded are accomplished or abandoned.

Final Conclusions-Death

Applying Steps 6, 7, 8 and 9 of the Semiotic, the list of statements (conclusions) as identified by letter was:

A Its (decline) ultimate effect on the organization is death.

B Pathologies exist which may cause the organization's death.

C It refers to the circumstances when an organization did once exist and does so no longer.

D It occurs when the purposes for which the organization were founded are accomplished or abandoned unless a new purpose can be found.

Matrix 7.1 identified all statements and indicated all relationships.

Matrix 7.1

	A	B	C	D
A	■	$A \supset B^+$	$A \supset C^+$	☒ 0
B	$B \supset A^+$	■	$B \supset C^+$	☒ 0
C	$C \supset A^+$	$C \supset B^+$	■	☒ 0
D	☒ 0	☒ 0	☒ 0	■

Using these conclusions a hypothetical syllogism (chain argument) was developed:

$$\begin{array}{l} B \supset A \\ \underline{A \supset C} \\ \therefore B \supset C \end{array}$$

The conclusion was:

$B \supset C$ If pathologies exist which may cause the organization's death, then it refers to the circumstances when an organization did once exist in a tangibly-bounded sense and does so no longer.

Chapter IV

SUMMARY, CONCLUSIONS AND IMPLICATIONS

In this chapter the focus will not only be on organizational decline and death but also on Semiotic Analysis. Because of the uniqueness of SA, it was deemed appropriate to include comments on the process in this chapter.

SUMMARY

Several key issues surfaced in summarizing the propositions on organizational decline. In the set, Precedents, the preeminent concerns were those crises in the organization that precede decline and the organization's age as a factor in survival. An additional issue was growth as a stress factor and crisis-inducer in the organization.

The set, Internal Factors, focused on the need to identify what exactly constituted the symptoms of organizational decline. Included here were: deteriorating physical plant, pathological information flows, failure to keep abreast of current technologies and abnormalities in matter-energy processes. Other indicators of pathology were the downgrading of products and performance and the downsizing of the workforce, clients and physical plant. Whatever the problem, as identified in this section, it was deemed a potential contributor to the eventual decline of the organization.

Environment, Political and Public Effects were cited in the set, External Factors, as pressures that affect the organization. Factors in the environment could cause an organization to experience entrophy (loss of energy) or atrophy if it was not responsive to these pressures and the resultant need for change. Two components of environmental pressure were the political and public effects on the organization. The "favors" of these two components were seen as necessary to the maintenance of the life of the organization. Failure to cultivate representatives of these components can result in environmental pressures which can contribute to the deterioration of the system.

Personnel Problems centered around staff morale and managerial abilities. Staff morale had numerous components: scapegoating, consensus problems and recruitment of new employees. Although it was concluded that decline was a managerial problem, to deal with it required new methods and personnel who were amenable to change.

The Solutions section was based on the premise that somehow decline was temporary and the organization could be nursed or managed back to health. Ironically, it is "normal" behaviors (responses) that exacerbate the problem of decline.

In the set of abstracted conclusions developed from all the conclusions, the indicators were that decline was directly related to managerial abilities. Although decline is an inevitable part of organizational life, it is the strategies adopted by managers that are significant for the organization.

Organizational Death was a much shorter section. This was attributed to the reluctance on the part of researchers to deal with this issue, even in something as abstract as an organization. The factors here were death as the ultimate result of decline, ascertaining the causes of death and determining at what point organizations actually cease to exist.

Finally, Semiotic Analysis entailed the subsumption of statements and the creation of symmetrical matrices from which conclusions could be deduced. In doing this the researcher strove to determine the essential or core ideas from the material subsumed. The goal was to isolate seminal thoughts. Using the matrix allowed the researcher to test and eventually "prove", through the rules of logic, these statements.

CONCLUSIONS

Assuming from the conclusions developed in the final matrix in the Decline set (p. 150), it is "acts of management", the seeming certainty of decline and the worsening of the pathology that "normal" responses cause, it would appear that decline is truly a managerial-administrative problem. It is the inevitable consequence that must occur at some point in the organization's existence. It is not something that will, necessarily, disappear if ignored. Rather it is a phase or a cycle that must be dealt with.

Whether one views decline as part of a life-cycle or as one of the inescapable down phases in the ups and downs of organizations, it requires special skills on the part of managers. If normal responses make decline worse, then strategies must be developed that will allow one to function in an environment of downgrading and downsizing coupled with external pressures that may hamper much needed political, public and financial support. The day of the "One-Minute Manager" (Blanchard and Johnson:1982) if such ever existed, is gone. Managing an organization in decline requires thought and superior adminstrative abilities. It calls for a commodity that, of late, appears to be missing-Leadership. Dealing with decline entails making difficult decisions and executing them in the best possible manner.

"Camping on Seesaws" is how Hedberg, Nystrom and Starbuck (1976:41) describe the management of a declining organization. The analogy seems an appropriate one. They (1976:42) advise administrators to consider that leading an organization is much like "living in a tent". Nothing is permanent and there is very little protection between you and the external environment. One must be ready to move in an instant to insure survival, while still coping with the ups and downs of the seesaw. While a somewhat frightening thought, it would appear that flexibility, adaptability and mobility are the order of the day. Such are the characteristics needed to manage (lead) a declining organization. If "acts of management" are the essential elements in decline, then management must adjust and change accordingly.

This research suggests that the various crises that strain the organization are instrumental in its deterioration. One can conclude that a crisis can take a number of forms. One area of special interest was the effect that growth has on the organization. Implicit within this is that growth, especially when rapid or poorly-managed, is particularly stressful. This seems a significant conclusion when one looks at both public and private-sector organizational development in the 1980's. Those groups who enjoyed immeasureable and rapid growth in the Post-War decades now seem acutely ill-suited to deal with current realities.

Finally, one must conclude that the organization's environment is another major factor in decline. The organization must be aware of and responsive to its environment, both internal and external. It would appear incumbent on the part of the system's leadership to accurately measure and develop strategies for response to the environment.

Looking at the significant difference in the number of propositions on death vis-a-vis decline, one can correctly conclude that there is little material dealing with organizational death. It would seem almost a tangential issue, one that "nice" researchers don't discuss. Results from this research indicate that death is the ultimate outcome of decline. Kubler-Ross (1975) calls death "the final stage of growth", an interesting description when applied to an organization. The notion of organizational growth is eagerly accepted and much-researched, yet one finds a reluctance to complete the life-cycle. Accepting the notion of death is difficult.

Nonetheless, pathologies exist which bring decline and ultimately death in an organization. One concludes that death has multitudinous causes and occurs when the organization ceases to exist as a unique entity. How that death occurs, whether as Whetten (1980:373) states, "it is suicide or homicide", it does occur. It is a reality of decline and evidence of its frequency of occurrence is growing.

Use of Semiotic Analysis offered the researcher an opportunity for intensive, longitudinal study. The methodology allowed (demanded) time for a thorough study of the selected data. Additionally, one had to focus on the development and identification of the most salient issues. Conclusions were drawn without losing the meaning of all propositional components. Through subsumption and deduction, when the SA process is completed, the researcher has an understanding of what are the most important factors in the data.

Lengthy study, mastery of material and extraction of subsuming statements may be seen as an advantage to some researchers. To others, however, the length of time required and the tediousness of subsumption and deduction may be viewed as a disadvantage. The procedure is time-consuming and exacting, especially if done by hand. Considering the volume of material covered in many qualitative studies, the selection of Semiotic Analysis as the methodology should be given careful consideration.

Although the subsumption to a final all-inclusive proposition is a worthwhile part of this academic exercise, one must be aware that the conclusions are global. Although all information is implied in the subsuming proposition(s), some researchers may believe that the loss of certain subtle nuances may be a negative factor in the use of SA. Additionally, there may be some concern as to the use of a mechanistic device (SA) to measure the on-going processes of the organization.

Finally, the successful use of logical deduction by a neophyte in logic would indicate that the procedure requires only the most rudimentary understanding of Logical Analysis. One can conclude therefore, that the procedures can be used without great difficulty or extensive additional study.

IMPLICATIONS

For Further Research

In this study only the essentials of organizational decline and death, as stated in the research proposal, were determined. Within this research several areas for further study evolved. Those include: the effect of growth on the later life of the organization; what are the appropriate managerial responses for dealing with the problem; identification and management of the personnel problems inherent in a declining organization and what, if any, solutions exist. As we continue to deal with decline, more dimensions of the problem emerge and further research needs will develop.

Organizational death must be studied in something other than the typical case-study form. As decline intensifies, organizations will enter the "death throes". Questions arising may include: Is organizational death inevitable? Can death be delayed? What are the appropriate strategies for the manager in a dying organization (go down with the ship or abandon it)? What role do artificial support systems, i.e., infusion of government funds, play in keeping the organization functioning when perhaps it should have been allowed to die?

Although this research project made no attempt to use a computer for data-reduction, other applications of Semiotic Analysis have used a computer to analyze the alpha-string data. Use of the computer has the advantage of making SA more time-efficient and in future applications of the methodology may be very useful.

Educational Administration

As this dissertation originates from a department of educational administration, it is appropriate to close with some possible implications for the field. Specifically, no longer can one ignore the issue of decline or hope to avoid it. Evidence of its presence in the public sector-enrollment decrements, reduced resource bases, staff cutbacks, school closings and loss of programs-are the topical reality for many administrators. The current environment calls for administrators to be trained to recognize and adopt successful leadership strategies to deal with the multi-faceted problem. Whetten (1980:364) suggests that what is needed are "Red Adair" types to handle organizational crises. This would seem to imply that decline is a transitory issue, one handled by a specialist called in to deal with decline and once it is solved to leave. Rather than specialists, perhaps what is needed are thinkers and leaders, persons who can recognize the problems, ascertain the implications and lead organizational members through the difficult decision and action periods. To paraphrase Garreau (1982), administrators must accept that the organizations one is responsible for are "grown" and one must change to meet the conditions of that maturity, aging and ultimate death.

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APPENDIX

Logical Analysis
Semiotic Analysis

LOGICAL ANALYSIS

Logical analysis involves placing two or more items into a tentative relationship to determine the truth or falsity of the combined items. This process allows a large volume of data to be expressed concisely, with minimum attention given to the meanings of words or symbols.

Using logical analysis requires an understanding and application of logic concepts and procedures. These concepts and procedures are explained below.

Statement of Logic

One of the primary concerns of logic is meaning. Meaning is conveyed through sentences, phrases, formulas, or symbols regardless of the arrangement or choice of words and symbols or the language represented. For instance, in the three sentences:

The library is closed.
Closed is the library.
The library is not open.

the same message is conveyed even though the arrangement and choice of words vary. Similarly, the three sentences:

The rose is red.
La rosa es roja.
La rose est rouge.

all express the same meaning--independent of the fact that the first is written in English, the second in Spanish, and the third in French.

In addition to meaning, logicians are concerned with truth value--the truth or falsity of the meaning conveyed. Interrogative sentences such as "when will the new president of the board arrive?" are of no concern to logicians because truth and falsity are irrelevant. Likewise, imperative and exclamatory sentences cannot be judged for truth or falsity. On the other hand, declarative sentences--"Bureaucracy is related to complexity" and "educational institutions are democratically administered," for example--express meanings whose truth value can be determined.

A expression that conveys meaning and whose truth value can be determined is called a statement. In general, statements are either universally true or universally false--independent of time and place, of context or speaker. The declarative sentence can be written in such a way that it is true or false once and for all. The sentence "John Dewey has written about pragmatism" was false before 1886 but was true after that year. To make the sentence timeless the verb tense is changed to the present. "John Dewey writes about pragmatism." By using the present tense, time now is no longer an element with which truth or falsity must contend.

Many of the logic statements used as illustrations in this section and during a normal day's activities are not composed in this tenseless way. Nonetheless, what is implied by the statements is the universality of their truth value.

Simple Statements

The statements discussed above are all simple logic statements. A simple statement is one which contains only one meaning, thought, expression, or idea. For example, "the book is heavy" is a simple statement because it contains no more than one idea.

The truth value of simple statements can be determined in a number of ways--by definition, observation, experience, or recorded history. The statement "bureaucracy is related to complexity" may be judged true from the definition of the word "bureaucracy" which means "the administration of an organization through departments, sub-divisions, or bureaus," thus a complexity of organizational machinery. It might also mean a "collectivity of officials" thus, by quantity, complex not simple. Or again, bureaucracy could be defined as a "complexity of rules and inflexible routines (red tape)." In any case, the truth value of "bureaucracy is related to complexity" can be determined as can the falsity of "educational institutions are democratically administered." The falsity of this latter statement need not be discussed further since it is apparent to any who have come in contact with such institutions that not all of them are democratically administered. Here the truth value can be determined through observation and experience. But with the statement "John Dewey writes about pragmatism," definitions, observations, and experience will be of little help. To determine the truth value of this statement, one must turn to history and literature to ascertain if Dewey did indeed write about pragmatism.

Compound Statements

A compound statement is one which contains at least two simple statements. "The book is heavy and the book is valuable" is an example of a compound statement. The truth value of a compound statement is dependent upon the truth value of each of the simple statements which comprise it and the word or words used to connect the statements.

The compound statement--"bureaucracy is related to complexity, and organizations strive to survive"--is only true if both of the component simple statements--"bureaucracy is related to complexity" and "organizations strive to survive"--are true.

The compound statement--"either bureaucracy is related to complexity, or it is not"--is false only when both simple statements are false. Since in this statement one component is true and one is false, the statement is true.

By adding simple statements together, complex statements can be made whose truth value becomes more difficult to discern. A variety of dependencies may arise within a compound statement. For example:

> As diversification within our organization increases and the personnel department hires more employees, then either the new employees must be more specialized or an in-service training program to develop the needed specialists must be initiated, which is equivalent to saying the greater the degree of specialized skills a new employee has, the less need there is to provide him with in-service training programs to develop the needed skills.

The truth value of this compound statement is determined by first isolating the component simple statements:

1. Diversification within our organization increases.
2. The personnel department hires more employees.
3. The new employees must be more specialized.
4. An in-service training program to develop the needed specialists must be initiated.

Then judgments are made as to the truth or falsity of each simple statement by itself. Finally, the words used to connect simple statements determine their combined truth value.

Connectives and Statement Composition

Four connectives are employed in truth function logic. They are: "and," "or," "if, then," and "if and only if" or "is materially equivalent to." One additional value, "negation," also affects the truth value of a statement.

Conjunctive "And": The simplest connective in logic is the most common conjunction in English--the word "and." Other conjunctions of grammar--"but," "still," "although," for example--are understood in the same way as the conjunction "and" and are symbolized by the dot (˙). When two simple statements are connected by a conjunction, they are called conjuncts. Schematically, such a compound statement would appear as:

Conjunct--Conjunction--Conjunct

An example of a conjunctive statement is:

> Higher authorities prescribe rules to increase the ability to predict what the employee will do . . . and [rules] make legitimate the differences in the status and power of different members within the organization.[9]

Using the dot (·) to represent the conjunction between the conjuncts, the statement now becomes:

> Higher authorities prescribe rules to increase the ability to predict what the employee will do · rules make legitimate the differences in status of different members within the organization · rules make legitimate the differences in power of different members within the organization.

In ordinary discourse the conjunction "and" may be used between words, phrases, clauses, and sentences. In logic, "and" is only of concern when it connects statements. In the above example, "and" was placed between two clauses and appeared again between the words "status" and "power." Since the total number of simple statements (meanings) was three, it was necessary to write each statement as complete--separate from the other statements and able to stand alone. Only by recognizing and isolating simple from compound statements can the truth value of a compound statement be determined.

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[9] Bass, B. M. Organizational Psychology. Boston: Allyn and Bacon (1965), pp. 254-255.

The above conjunction, like all conjunctions, is true if and only if the simple statements which constitute the compound statement are true. To be false, only one of the conjuncts of the conjunction needs to be false. The rules for determining the truth value of a conjunctive statement by the truth value of its components, p and q are shown in the following table:

p	q	$p \cdot q$
T	T	T
T	F	F
F	T	F
F	F	F

The order in which the conjuncts appear is of no importance to the truth value of the conjunction. Truth value is also independent of all rhetorical consideration such as literary style and composition and figures of speech.

Disjunction "Or": In many languages an object or thing is called by a number of names, with each name denoting various characteristics. In other languages the same thing has but one name, and differences are indicated by adding descriptive words. The Incas, for example, have a great number of individual words for the word "potato," denoting various sizes, shapes, and conditions; the Eskimo has a variety of words to describe the different physical states of snow, and the Arab denotes the attributes of the camel by a multitude of names. In English, there are fewer specific names for each of these; thus, distinctions are made by adding word or phrase modiers--a scabby, small, round potato; soft, dry, crystalline snow; a large, male camel with a bad left hind foot.

The "or" in logic presents some of the same problems since it has both an inclusive and exclusive sense. The inclusive "or" means that at least one of the statements of the compound statement is true and it is possible that both are true.

In the following statement:

> Workers accept the suggestions of their supervisors to avoid punishment or in hope of a reward.[10]

workers may accept suggestions for one or the other reason, or they may accept suggestions for both reasons. In legal documents and some scholarly works, the barbarism "and/or" is used to make explicit the inclusive disjunct.

The exclusive "or" means one or the other statement is true but not both. In the above sentence the exclusive sense could be made explicit by adding the word "either":

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[10] Bass, p. 168.

> Workers accept the suggestions of their supervisors
> either to avoid punishment or in hope of a reward.

or by adding the phrase, "but not both":

> Workers accept the suggestions of their supervisors
> to avoid punishment or in hope of a reward, but
> not both.

Both additions make it clear that one of the statements must be true and one must be false for the compound statement to be true in the exclusive sense.

Since there are two meanings for "or," it is necessary to know what they have in common so that use of the disjunction can be uniform and the rules for determining truth value universally applied. In short, "at least one of the statements is true" is the whole meaning of the inclusive "or" and is a partial meaning of "or" in the exclusive sense. To determine the truth value of statements in logical analysis, this shared meaning of the disjunctive is used and is symbolized by "v," from the Latin word "vel." (The Latin language recognizes the distinction between the inclusive and the exclusive meaning of the disjunction and uses "vel" to signify the former and "aut" the latter.)

When two statements are connected by "v," each statement is called a disjunct and the compound statement is a disjunction. Schematically, such a compound statement would appear as:

Disjunct--Disjunction--Disjunct

When the "or" is replaced by "v" in the preceding example, the compound statement becomes:

> Workers accept the suggestions of their supervisors
> to avoid punishment v in hope of a reward.

The statement could also be written as two separate simple statements:

> Workers accept the suggestions of their supervisors
> to avoid punishment v workers accept the suggestions of their supervisors in hope of a reward.

A disjunction is said to be true when one disjunct or the other is true or if both of them are true. Therefore, the above example is true if one of the disjuncts--"to avoid punishment" or "in hope of a reward" --is true or if both are true. The only case in which the disjunction is false is when both disjuncts are false. For instance, if the words "workers" and "superiors" were interchanged as:

> Supervisors accept the suggestions of the
> workers to avoid punishment v in hope of a
> reward.

it is likely that both disjuncts would be judged false and thus the statement would be false.

The rules for deciding the truth value of a disjunctive statement are represented in the following truth table:

p	q	p v q
T	T	T
T	F	T
F	T	T
F	F	F

In the discussion of the conjunction "and," it was noted that other grammatical conjunctions could be symbolized and treated as the "and." Likewise, "neither . . . nor," as used in ordinary discourse, have the same connective meaning as the "or" and can be symbolized by the "v." Again, as with the "and," "or" is used in ordinary language to connect words, phrases, clauses and sentences and, as such, is generally a means of eliminating repetition. In most cases, such abbreviations can be rewritten so that the disjunction connects simple statements.

Hypothetical "If, Then": A hypothetical compound statement is formed when an "if" precedes the first statement and a "then" is placed before the second statement. In the hypothetical, the first statement is called the "antecedent" and the second statement is called the "consequence." Schematically, the hypothetical would be:

If--Antecedent--Then--Consequence

In the discussion of disjunction it was noted that two meanings of "or" were possible: the inclusive meaning and the exclusive meaning. A similar distinction is made with the hypothetical except, instead of two meanings, four distinct ones are possible. The following four statements illustrate each of the four different senses of the "if, then."

1. Definitional. Example: If a person exercises power, then he imposes his will on others to influence their behavior.

2. Decisional. Example: If workers believe that their status is not adequately recognized by a new supervisor, then they will withhold information from him.

3. Logical. Example: If all governmental institutions are bureaucratic and the Bureau of Health Services is a governmental institution, then the Bureau is bureaucratic.

4. Causal. Example: If blue litmus paper is placed in an acid solution, the the litmus paper will turn red.

When power is defined as "the ability to determine the behavior of others, regardless of the basis of that ability," statement one is clearly seen as a definitional, hypothetical statement. The consequence follows from the meaning of the term "power," which appears in the antecedent.

In statement two the consequence is a decision made by subordinates to sabotage a new leader who they perceive as not giving them adequate recognition. In this statement the consequence is a decision arising from the antecedent. Decisional hypothetical statements may fall into two classes, possible or impossible. Compare the statements:

> If Jones is appointed over me, I'll do everything I can to make it rough for him. (possible)
>
> If Jones is appointed over me, I'll drop-kick him over the Tower of London. (impossible)

Regardless of the possibility of carrying out the statements, the important consideration is that the antecedent is connected to the consequence by an "if, then" connective that requires a *decisional* meaning.

The third statement illustrates a logical relationship between the antecedent and the consequence. In this statement the antecedent is a conjunctive compound statement whose consequence (the conclusion) follows logically, as shown in the following logical syllogism:

> All government institutions are bureaucratic.
> The Bureau of Health Services is a governmental institution.
> Therefore, the Bureau is bureaucratic.

In the fourth statement the consequence does not follow from the antecedent by definition, decision, or logic. The statement says that if the antecedent occurs--not has occurred or even will occur--then the consequence must also occur. The consequence (effect) is a necessary result of the occurrence of the antecedent (cause).

Because a causal relationship assumes that event A (the antecedent) will *always* cause the occurrence of event B (the consequence) regardless of intervening circumstances or conditions, there is disagreement as to the existence of causality, especially outside the scientifically-controlled laboratory. For this reason, most, if not all, of the statements emanating from a collection of data will *not* be causally connected. If, at first glance, two statements appear to be causally related, a careful analysis should be conducted to verify that the relationship is not definitional, decisional, or logical.

The connective used to show the "if, then" relationship is symbolized by the horseshoe ($\supset$). Using this symbol, statement number one on page 66 is written as:

> A person exercises power $\supset$ he imposes his will on others to influence their behavior.

The horseshoe demonstrates that an "if, then" relationship exists; it does not denote whether the relationship is definitional, decisional, logical, or causal.

The hypothetical is said to be false only when the antecedent is true and the consequence is false. If the antecedent and consequence are both false or both true, or if the antecedent is false and the consequence is true, then the statements are true.

In all hypothetical relationships, the following truth table can be applied to determine the truth or falsity of the combined simple statements, if *p*, then *q*.

p	q	$p \supset q$
T	T	T
T	F	F
F	T	T
F	F	T

Material Equivalence "If and Only If": Two statements are said to be materially equivalent if the first statement implies the second statement and the second statement implies the first. The statements may be separate, single statements, or they may be components of a compound statement. To show this relationship, the symbol "≡" is used and is read "is materially equivalent to" or "if and only if." Schematically, the statements would appear as:

Statement (first) ≡ Statement (second)

An example of two materially equivalent statements is:

> I will follow my supervisor's suggestion even though I disagree with it.
> I will publicly accept my supervisor's recommendation although I privately reject it.

Using the symbol, the statements would appear as:

> I will follow my supervisor's suggestion even though I disagree with it ≡ I will publicly accept my supervisor's recommendation although I privately reject it.

These two statements could also be placed in an "if, then" relationship with either statement being the antecedent and the other the consequence. The relationship would be symbolized by the horseshoe and identified as a definitional hypothetical. Such statements are called tautologies

A statement of material equivalence is true only when both statements are true or when both statements are false. If either one statement or the other is true and the opposite statement is false, then the material equivalence is false.

The following truth table can be used to determine the truth value of materially equivalent statements:

p	q	$p \equiv q$
T	T	T
T	F	F
F	T	F
F	F	T

Negation "It is False That . . .": In everyday language the most common form of negation is the word "not," but negation can also be expressed by prefixing to a statement the phrases "it is false that" and "it is not the case that." For instance, the negation of the statement "he is being coerced" could be read:

He is not being coerced.

or

It is false that he is being coerced.

The symbol of negation is the tilde (~) and it is placed at the beginning of a statement. For instance, the statement "he is not being coerced" is written:

~ he is being coerced.

Each negation must be symbolized by a tilde. If two negations are contained in a statement, then two tildes must be shown. For example, the statement "it is false that he is not being coerced" is written:

~~ he is being coerced.

When symbolizing compound statements, the same rules are applied. "He is being coerced ≡ it is false that he is not being coerced" is written:

He is being coerced ≡ ~~ he is being coerced.

The compound statement "he is not being coerced ≡ it is false that he is not being coerced" is schematized as:

~ He is being coerced ≡ ~~ he is being coerced.

The truth value of any negation of a statement that is true is false and of any statement that is false is true. If the statement "Barbara is an airline pilot" is true, then its negation "Barbara is not an airline pilot" is false. But if this false statement is also negated--"it is false that Barbara is not an airline pilot"--then the statement becomes a true statement. Since a simple or a compound statement can only be true or false, any negation of it will be the opposite truth value.

Determining the truth or falsity of negative statements can be simplified by using the following truth table:

p	~p
T	F
F	T

Statement Variables and Punctuation

In logical analysis, the awkwardness of using extended words and phrases to explain the relationship between statements is alleviated by the use of symbols. This was shown in the preceding examples when the symbols "·," "v," "⊃," "≡," and "~" were used to represent the four connectives and negation. Symbolic abbreviation can also be applied to the statements themselves. By convention, capital letters of the alphabet, beginning with the letter "A," are used to stand for statements. For instance, in the sentence:

> If it is believed that knowledge varies directly with status, then the influence of a high-status person is accepted with less resistance than the influence of a low-status person.

the first simple statement is represented by the letter "A,", while the second is symbolized by "B."

By combining connective symbols with statement symbols, one can represent entire statements quickly and concisely. The above sentence, for example, would be abbreviated as:

$$A \supset B$$

More complex sentences such as:

> If Mr. A wants B to change his behavior, A must use one of these mechanisms: he must lead B to see either that this particular behavior will augment his (B's) possibilities or need-satisfaction, or else that not producing this particular behavior will lead to a reduction of B's possibilities of need-satisfactions.[11]

are easily schematized if each simple statement is separated from the other simple statements and given appropriate symbols. In this sentence, four statements are represented:

1. Mr. A wants B to change his behavior.
2. A must use one of these mechanisms.
3. He must lead B to see that this particular behavior will augment his (B's) possibilities of need-satisfaction.
4. He must lead B to see that producing this particular behavior will lead to a reduction of B's possibilities of need-satisfactions.

The first statement can be symbolized by the letter "A," the second by the letter "B," the third by the letter "C," and the fourth by the letter "D." Thus, the sentence could be schematized:

$$A \supset B$$
$$B \supset (C \vee D)$$

Upon closer examination, however, it is discovered that statements C and D are not unrelated statements but rather D is the negation of statement C. This is true because both statements, although composed of different sets of words, share the opposite sides of the same meaning. Consequently, the correct representation of the four statements is:

---

[11] Haire, M. Psychology in Management. San Francisco, California: McGraw-Hill Book Company (1964), p. 128.

$$A \supset B$$
$$B \supset (C \vee {\sim}C)$$

or

$$A \supset [B \supset (C \vee {\sim}C)].$$

These relationships can be stated as:

> If Mr. A wants B to change his behavior, then A must use one of these mechanisms. $A \supset B$
> If A must use one of these mechanisms, then he must lead B to see either that this particular behavior will augment his (B's) possibilities of need-satisfaction, or else that not producing this particular behavior will lead to a reduction of B's possibilities of need-satisfactions. $[B \supset (C \vee {\sim}C)]$

In addition to connective and statement symbols, special marks, such as the parentheses and brackets shown above, are essential when complex relationships are treated. Not unlike the commas, colons, and semicolons used in ordinary language or the notations--braces, brackets, parentheses--used in mathematics, these marks are called punctuation marks and are necessary to show the order and method by which variables are to be treated.

To determine the truth value of complex statements expressed by a number of punctuation marks, one needs only to remember to work within the parentheses first, the brackets and braces last. Once the truth value of a simple relationship, such as $(C \vee {\sim}C)$, is determined, then the truth value of the total complexity of statements, such as $A \supset [B \supset (C \vee {\sim}C)]$, can be decided. This movement from the simplest to the complex is the rule of many symbolic systems including mathematics.

By applying the preceding concepts and procedures, the planner can examine the data collection, break complex statements into simple ones, show the relationships existing between statements, and summarize the results by the use of symbols. Once he becomes acquainted with the techniques, logical analysis can be conducted steadily and efficiently and can be adapted to large as well as small collections of data.

A few considerations for using logical analysis are listed below.

1. The speed and efficiency of examining relationships between items can be increased.
2. The process may be replicated.
3. An elementary knowledge of formal logic is needed.
4. The statements and arguments conveyed through ordinary language can be reduced, interrelationships shown and truth value determined without distorting original meanings.

MODUS PONENS

As described by Copi (1973:32), the inference form, Modus Ponens, is as follows:

$$p \supset q$$

$$p$$

$$\therefore q$$

SEMIOTIC ANALYSIS

Semiotic analysis is a rational system of reducing large quantities of data without losing the essential meaning of individual items. A series of decision rules determine how the data is organized and categorized, how essential items are identified, and how the items are interrelated.

To begin the process, one lists all the words found in a given data collection, calculates their frequency of occurrence, identifies synonyms for phrases or families of words, and substitutes the synonyms in the collection. This phase of the process is called definition reduction.

If the nature of the data lends itself to translation into a standard form such as the hypothetical statement (if, then), the second phase of semiotic analysis, called logical reduction, is initiated. In this phase the definitionally reduced data collection is categorized into sets and subsets by an *a posteriori* process. (For a discussion of *a posteriori* categorization, see page 29.) When the categorization is completed, each set of items is listed along the vertical and horizontal axes of a symmetrical matrix. Each item is then placed into a tentative relationship--usually a hypothetical (if, then)--with every other item to determine which items are related. When a relationship is accepted, the cell is filled by a symbolic representation of the relationship. For instance, if item A is related to item B, the symbols $A \supset B$ are placed in the intersecting cell of row A and column B, and if B is also related to A, then the intersecting cell in row B and column A is filled by the statement $B \supset A$. When A and B are so related the statement is called reversible. When the relationship is only one-way, the statement is said to be nonreversible or directional. (For further information on hypothetical relationships, see pages 65-67.)

When all the cells of a symmetrical matrix are filled, a hypothetical syllogism or chain argument is constructed such that any cell in the matrix could be the conclusion of the argument. This conclusion would imply all the other cells of the matrix, which are called the premises of the argument. When no relationship, reversible or nonreversible, exists between variables, the intersecting cell remains void; when the variables have a nonreversible relationship, a dot (·) is placed in the nonreversible cell.

When treating data with nonreversible relationships, two alternatives are possible: one, only the reversible items are placed in an argument and the nonreversible items are ignored; or two, and more preferable, the nonreversible items are connected to reversible items by one of the other logical connectives--"and" (·), "or" (v), or "material equivalence" (≡). Negation (~) may be used with any of the above connectives when contradictory statements (items) are noted.

The final stage of semiotic analysis is placing the conclusions of all the arguments formed from the data collection into a symmetrical matrix where again relationships are identified and arguments constructed. In the case of social science data, more than one conclusion is generally formed from a matrix. The gaps between conclusions provide the theoretical base for forming testable hypotheses that add to the state of knowledge.

Example

In a study of succession a number of hypothetical propositions were abstracted from the literature and initially categorized according to key actors such as predecessor, successor, inside successor, outside successor, and subordinate. The set of propositions concerned with the outside successor in a new role position are presented below to illustrate definition and logical reduction.

Step 1: List the propositions.

The outsider creates a new informal social circle.

The outsider is a stranger, unacquainted with the social realities of the situation.

The outsider can initially subscribe to the position of objectivity and impartiality.

The outsider does not know the informal social structure of the organization.

The outsider is unhampered by the informal social structure.

The outsider will have a difficult time being accepted.

The outsider is isolated from the informal sources of information.

The outsider is given considerable latitude in his operation.

The outsider is given full support of the board during the first year.

The outsider is at first over-accepted and over-idealized.

Step 2: Create a word frequency dictionary.

Word	Frequency of Occurrence
a	3
accepted	2
and	2
at	1
being	1
board	1
by	1
can	1
circle	1
considerable	1
creates	1
difficult	1
does	1
during	1
from	1
first	2
full	1
given	2
his	1
have	1
idealized	1
impartiality	1
in	1
informal	4
information	1
initially	1
is	6
isolated	1
know	1
latitude	1
new	1
not	1
objectivity	1
of	5
operation	1
organization	1
outsider	10
over	2
position	1
realities	1
situation	1
social	4
sources	1
stranger	1
structure	2
subscribe	1
support	1
the	19
to	1
time	1
unacquainted	1
unhampered	1
will	1
with	1
year	1

In this dictionary, three words, "informal," "social," and "structure," have been used more than once and have more subsuming significance than the other words listed. The other multiple-use words are discounted because they either identify this particular set of propositions ("outsider") or are articles, prepositions, adverbs or verbs.

Step 3: Isolate the propositions containing the words "informal," "social," and "structure," and determine how many propositions can be subsumed.

> The outsider creates a new informal social circle.
>
> The outsider is a stranger, unacquainted with the social realities of the situation.
>
> The outsider does not know the informal social structure of the organization.
>
> The outsider is unhampered by the informal social structure.
>
> The outsider is isolated from the informal sources of information.

Step 4: Write subsuming statement(s). In this case, the five statements can be represented by the single statement:

> The outsider is a stranger.

Note: It is important that the meaning of the statements subsumed not be lost and that the statement "the outsider is a stranger" does not include or convey more than the statements from which it was drawn. Since the subsumed statements set the parameters of the subsuming statement, any subsequent use of the subsuming statement should be limited by these parameters.

Step 5: Replace the subsumed statements in the original data collection with the subsuming statement. The list of statements becomes reduced to six statements:

> The outsider is a stranger. (Contained in this statement are the five subsumed statements.)
>
> The outsider can initially subscribe to the position of objectivity and impartiality.
>
> The outsider will have a difficult time being accepted.
>
> The outsider is given considerable latitude in his operation.
>
> The outsider is given full support of the board during the first year.
>
> The outsider is at first over-accepted and over-idealized.

Step 6: Obtain a computer print out which places each statement in a hypothetical (if, then) relationship with each of the other statements. (Each statement should assume the positions of both antecedent and consequence.) If the volume of data is small, this step can be done by hand.

If the outsider is a stranger, then the outsider can initially subscribe to the position of ojbectivity and impartiality.

If the outsider is a stranger, then the outsider is given considerable latitude in his operation.

If the outsider is a stranger, then . . .

Step 7: Read each statement to determine if the meaning of the antecedent and consequence are the same or if the consequence further defines the antecedent. In both cases, the consequence can be subsumed and added to the original list of subsumed statements.

If the antecedent and consequence are not the same, an acceptance or rejection judgment is made. Devise a code for the list of propositions created in step 6 to note acceptance/rejection decisions. For instance, a check (✓) can indicate that a relationship is accepted, a zero (0) that it is rejected.

In reading the statements it is sometimes helpful to substitute the pronoun "he" for the term "the outsider." The reason for this is that without great care one can slip into accepting all the relationships by definition alone.

One of the statements, "the outsider will have a difficult time being accepted," was judged to be an additional parameter defining the subsuming statement, "the outsider is a stranger," and was therefore subsumed.

Step 8: Assign letter symbols to the final list of statements.

A The outsider is a stranger.

B The outsider can initially subscribe to the position of objectivity and impartiality.

C The outsider is given considerable latitude in his operation.

D The outsider is given full support of the board during the first year.

E The outsider is at first over-accepted and over-idealized.

Step 9: Place the five statements into a symmetrical matrix using the appropriate symbols to identify each statement and to note acceptance or rejection.

	A	B	C	D	E
A	■	$A \supset B$	$A \supset C$	$A \supset D$	$A \supset E$
B	·	■	✕	$B \supset D$	·
C	·	✕	■	$C \supset D$	·
D	$D \supset A$	$D \supset B$	$D \supset C$	■	$D \supset E$
E	$E \supset A$	$E \supset B$	$E \supset C$	$E \supset D$	■

As shown in the chart, when a hypothetical relationship is accepted, a symbolic representation is placed in the appropriate cell--$A \supset B$, for example. If the relationship is reversible (accepted when read either way, for example, $C \supset D$ and $D \supset C$), the symbols are placed in both cells. If one relationship is accepted and the other rejected, a dot (·) is placed on the rejected cell, and if neither relationship is accepted, the cells are exed (C) out.

Step 10: Create a valid argument which uses or implies all the relationships noted in the matrix.

$$\begin{array}{c} A \supset E \\ E \supset B \\ B \supset D \\ D \supset C \\ \hline \therefore A \supset C \end{array}$$

In ordinary language, this argument reads:

> If the outsider is a stranger, then he is at first over-accepted and over-idealized.
>
> If he is at first over-accepted and over-idealized, then he can initially subscribe to the position of objectivity and impartiality.
>
> If he can initially subscribe to the position of objectivity and impartiality, then he is given full support of the board during the first year.
>
> If he is given full support of the board during the first year, then he is given considerable latitude in his operation.
>
> Therefore, if the outsider is a stranger, then he is given considerable latitude in his operation.

By mediate or immediate inference, each filled cell of the matrix is contained in the argument.

Step 11: Following the logical reduction of each of the sets and subsets in the total collection, a matrix of conclusions is constructed and interrelationships are determined from which additional conclusions are drawn. In this way a few conclusions can represent a large number of statements, and essential ideas can be isolated.

A few considerations for using semiotic analysis are listed below.

1. A computer may be required when the volume of data is large.
2. Semiotic analysis is usually a time-consuming process.
3. A basic knowledge of logic is necessary.
4. It draws upon an analyst's subjective judgment.

5. Deductive relationships representing new insights or knowledge may be produced.
6. Partial theories can be constructed.
7. Gaps in the information or knowledge base allow hypotheses to be formed for testing.

Reference

Thiemann, F.C. A Partial Theory of Executive Succession. Ph.D. Dissertation, University of Oregon (1968).